

# SEATTLE ARENA MULTIMODAL TRANSPORTATION ACCESS AND PARKING STUDY



HORTON STREET, LLC



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# Executive Summary

Days with arena events only would add approximately 6,000 vehicles to the area, which is well within the existing parking, traffic, and transit capacity in the area.

Same-day same-time events at the arena combined with an event at Safeco Field or CenturyLink Field are manageable with the existing and funded transit investments in the area.

Enhanced use of technologies such as an e-park system, changeable freeway and arterial street sign directions, and game day mobile apps would benefit all of the venues, including Safeco Field and CenturyLink Field, enhance the fan experience, and reduce congestion in the area.

## ARENA ONLY EVENTS

- A sold-out arena event will add approximately 6,000 vehicles to the area.
- There would be approximately 52 weeknights with Arena events only and these are well within the existing parking / traffic / transit capacity in the area.
- Link light rail and First Hill Streetcar projects will substantially increase transit capacity in the next 10 years, and provide new highly reliable frequent service late into the evening from Redmond, Bellevue, Mercer Island, Capitol Hill, the University District, North Seattle, Shoreline, Mountlake Terrace, Lynnwood, Kent and Des Moines.
- Same-day same-time events at the arena combined with an event at Safeco Field or CenturyLink Field are a concern—this was the primary focus of the study.

## MULTIPLE EVENT SCHEDULES AND ATTENDANCE

- The number of events with 40,000+ event attendees per year increases from 3 to 9 on weeknights. This assumes Mariners draw 30,000+ per game. This could increase by up to 15 weeknights if one or more teams make the playoffs.
- For comparison, during the peak attendance Mariners season (2002) there were approximately 40 weeknight events with 40,000+ event patrons. The number of weeknight events with 40,000+ event patrons with 2002 Mariners attendance levels would increase from 44 to 46.
- Most same-day same-time events would be in the 40,000 to 50,000 attendance range, which is lower than a weeknight Seahawks game at 67,000.
- Same-day same-time Seahawks/arena events were not assumed in the study.

## MULTIMODAL TRANSPORTATION ACCESS

- There are more transportation options today compared to the Mariners peak attendance year such as Link Light Rail and SR 519. There will be even more transportation options when the arena opens such as Link Light Rail extensions, Alaskan Way Viaduct Tunnel replacement including the south tunnel portal interchange and South Atlantic Street overcrossing, First Hill Streetcar, East Marginal Way Grade Separation, and Spokane Street Viaduct Widening Project.
- There are currently over 35,000 parking spaces at Snohomish, King and Pierce County park and ride lots accessible to the arena study area by bus and/or rail. Link light rail extensions will provide direct rail access from over 13,000 park and ride spaces.

## PARKING

- Parking supply within a 15-minute walk of the arena would be sufficient to accommodate same-day events of up to 60,000 people. This assumes 3,500 new spaces: approximately 1,500 spaces new to the arena and 2,000 potential spaces from other projects.

## FREIGHT/PORT

- Arena event times generally do not coincide with the regular time of Port of Seattle container terminal operations. Day-time arena events would be rare.
- Most Port of Seattle operations close at 4:30 pm, although this could be extended if the growth in container volume occurs.
- Nearly all arena event patrons would arrive after 4:30 pm because events would start at 7:00 pm to 7:30 pm.
- The majority of event traffic would be on 1st Avenue and roadways to the east. The majority of Port of Seattle operations involve moving freight between container terminals and rail yards, which are located west of 1st Avenue S. Therefore, Port of Seattle operations are effectively separated from event traffic.
- Currently, planned and funded infrastructure improvements would improve Port of Seattle operations, including the new Atlantic Street overpass which provides a new direct connection between the container terminals and rail yards. This would be complete prior to the arena opening.





# Introduction

The purpose of this study is to evaluate the multimodal transportation access and parking infrastructure in the vicinity of the proposed Seattle Arena (see Exhibit 1). Findings from this initial transportation plan will inform the Seattle City Council and King County Council process to review the Arena proposal and a Memorandum of Understanding (MOU) in June 2012.

The multimodal transportation and parking plan is an initial effort to examine the potential transportation impacts created by the Arena proposal. An expanded transportation and parking impact analysis would be required as part of a more detailed project review to comply with the State Environmental Policy Act (SEPA). This phase of work will assess the degree to which the existing and planned transportation and parking infrastructure in the area would accommodate the new sports arena.

## ARENA LOCATION

The proposed arena site is located between S. Holgate Street and S. Massachusetts Street and between the Sounder rail maintenance facility and First Avenue S. as shown on the adjacent map. The property is within the City of Seattle’s Stadium Transition Area Overlay district and is zoned for a multi-purpose arena use.

The project proposes the vacation of Occidental Avenue S. between S. Massachusetts Street and S. Holgate Street. This segment would be needed to construct the new arena. The segment between Edgar Martinez Drive S. and S. Massachusetts Street would become a pedestrian-only street for arena events. To replace the function of the southern portion of Occidental Avenue S. for providing access to and from the Safeco Field garage south entrance, the arena would include construction of a private access roadway on the east side of the facility open for events only.

## ARENA SIZE AND TENANTS

Seating capacity for the arena was assumed to be 20,000, which is a conservative assumption because the arena could have fewer seats. Major tenants would include National Basketball Association (NBA), National Hockey League (NHL), and Women’s National Basketball Association (WNBA) franchises, plus additional concerts, shows and other special events throughout the year. A total of 1500-2000 new parking spaces would be provided for event patrons near the arena, plus Horton Street, LLC would secure use agreements for an additional 500 - 1,000 spaces, increasing the total arena parking supply to 2,500 spaces. The year of opening for the arena was assumed to be 2016 in time for the 2016-2017 NBA and NHL seasons. On weeknights, nearly all events would be scheduled during the evening, except for a rare special event such as a civic gathering or other meeting. Daytime events could occur on Saturdays and Sundays.

## STAKEHOLDER OUTREACH

Seattle Department of Transportation (SDOT) staff participated in the outreach efforts and provided guidance on the study process.

Meetings were held with several groups concerned with the arena impacts on freight transportation in the area including: City of Seattle, Port of Seattle, the International Longshore and Warehouse Union (ILWU), Seattle Freight Advisory Board, the Duwamish Transportation Management Association (TMA). Meetings were also held with representatives from the other two sports venues in the area, Safeco Field and Century Link Field, including: Seattle Mariners, Public Facilities District (PFD), First and Goal, and the Public Stadium Authority (PSA).



Exhibit 1. Project Overview Map



# Event Schedule with the New Arena

*This section answers how many additional events would occur at the new arena and the number of times these events would occur on the same-day or same-time as existing events at Safeco Field and CenturyLink Field.*

The development of a new arena would bring more people to the area, which will increase the number of people driving, using transit, walking, bicycling, and goods and services deliveries. The new arena would have the capacity to seat up to 20,000 sports fans. In perspective, this is slightly less than the 2011 average Mariners attendance (23,500), about half of the Sounders FC attendance (38,500), and less than one-third of the Seahawks (67,000).

To examine the transportation impacts that the event venues have, three scenarios with various attendance levels for all types of events were developed (see Exhibit 2). A summary of the three scenarios with assumed average attendance levels for sports events and season duration is provided in the adjacent table.

SCENARIOS	ASSUMED ATTENDANCE LEVELS	ASSUMED SEASON DURATION	WHAT THE SCENARIO DESCRIBES
Base	NHL – 20,000 NBA – 20,000 WNBA – 8,000 NFL – 67,000 MLB – 30,000 to 37,000 MLS – 38,500	Pre- and Regular season for all teams	The anticipated attendance levels and same-day same-time events during the first year of the new arena
Base plus Mariners high regular season attendance (2002)	MLB increased to 41,000 on weeknights and 47,000 on weekends	Same as base	Potential for higher event attendance throughout the Mariners regular season
Banner Years	Increases Mariners attendance to 47,000 during playoffs (sell out)	All six teams make playoffs through championship games	Maximum frequency of high attendance events (This is a highly unlikely scenario but was developed for illustrative purposes)

Exhibit 2. Summary of Event Scenarios

### Estimated Mode of Access to New Arena

Exhibit 3 summarizes the estimated mode of access for a single event at the new arena. The estimated mode-splits are based on a sold-out arena event, which would add approximately 6,000 vehicles to the area. An average vehicle occupancy of 2.69 and a performance threshold of 300 vehicles per 1,000 event attendees was used, which is discussed further in the Multimodal Transportation Access section. Both of these assumptions are reasonable and conservative compared to survey information from the Mariners and Seahawks.

Although the number of events in the stadium district would increase with the new arena, weeknights with arena events only would add approximately 6,000 vehicles. This number of vehicles could be accommodated within the existing roadway, parking, and transit capacity in the area.

Because same-day same-time events have a greater potential to create traffic and parking concerns in the area, they are the primary focus of the study.

TRAVEL MODE	MODE SPLIT (%)	NUMBER OF EVENT ATTENDEES	
Auto	81	16200	Using an average vehicle occupancy of 2.69 results in 6,000 vehicles.
Rail Transit	6	1200	
Bus Transit	3	600	
Ferry Transit	4	800	
Walk	4	800	
Bicycle/Other	2	400	
Total	100	20,000	

Exhibit 3. Estimated Arena Mode-Split

ASSUMED SCHEDULE OF EVENTS

Exhibit 4 illustrates the duration of professional sport team seasons, including playoffs, and major recurrent events and other events with over 5,000 event patrons.

The professional sports and special events schedules for a typical calendar year were developed based on existing Mariners, Sounders FC, Seahawks, and Storm season schedules. Other events at CenturyLink Field and Safeco Field were also included.

The estimated schedule for arena events was developed based on other west coast professional teams for their respective sports and other events at Key Arena. This event schedule illustrated in Exhibit 4 was used to determine the number of events by event patron size.

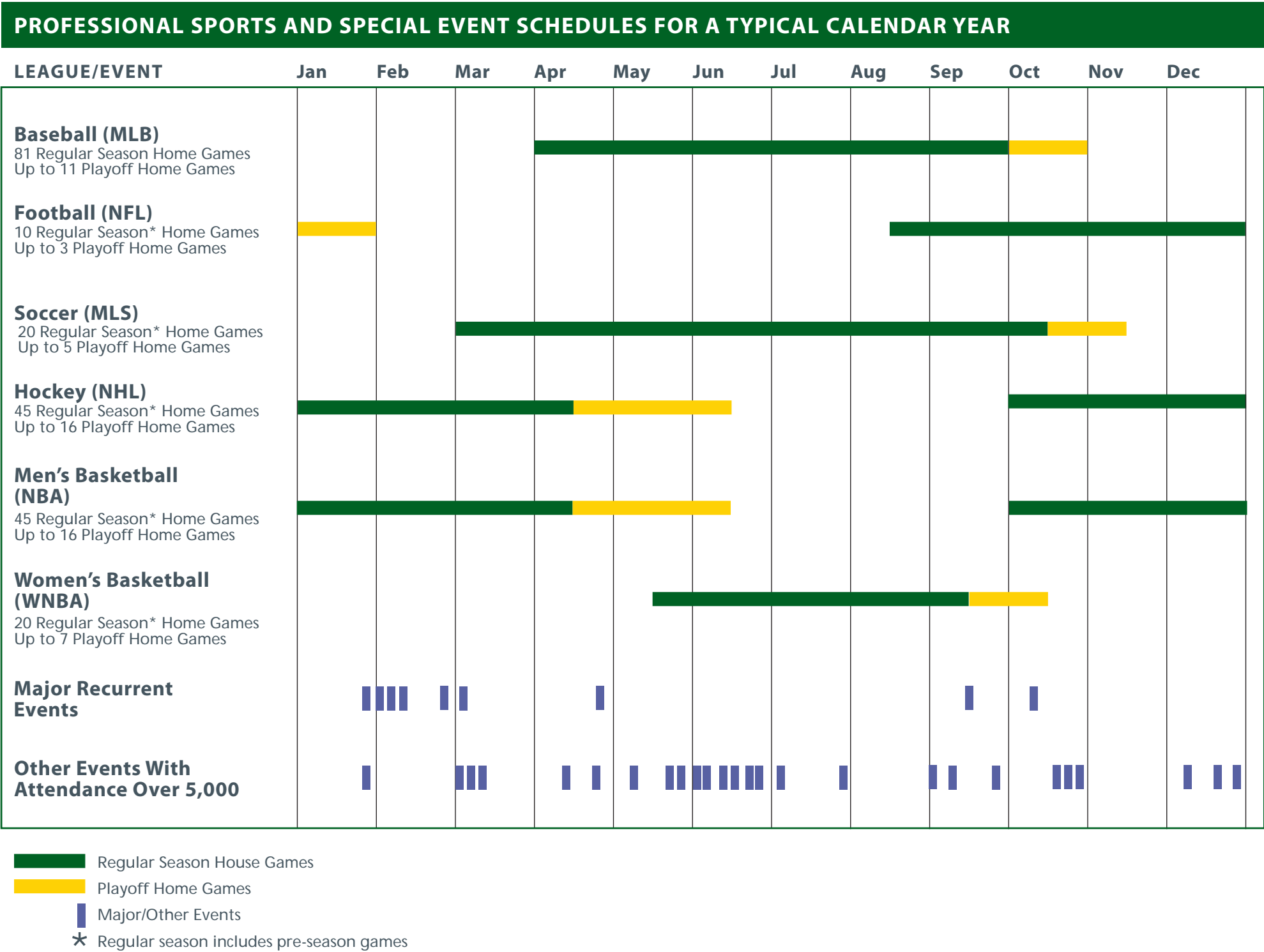


Exhibit 4. Assumed Schedule for Professional Sports Teams



EVENT SCHEDULE WITH THE NEW ARENA

BASE SCENARIO

This scenario examines the estimated number of people traveling to the stadiums based on current attendance trends at CenturyLink and Safeco Field. It includes both weeknight and weekend events. This scenario was developed to provide an understanding of the anticipated impact of the proposed arena while the two other scenarios were developed to examine higher transportation impact scenarios (see Exhibit 5).

Base Scenario Assumptions

- NFL, MLS and MLB scheduled game days are based on the 2011-2012 pre- and regular season schedules for the Seahawks, Sounders and Mariners (see Exhibit 6).
- The CenturyLink Field schedule includes non NFL and MLS events from the 2011 event schedule such as international soccer games, Supercross, concerts, and a Washington State University football game.
- The CenturyLink Exhibition Center schedule is based on the 2011 event schedule and includes concerts, consumer shows, and other public and private events.
- The Safeco Field schedule includes non MLB games from the 2011 event schedule and other events such as Fanfest, graduations, and the annual Microsoft meeting.
- Attendance assumptions for all non-sporting events are based on the venue event schedule attendance assumptions.
- Seahawks and Sounders FC games are assumed to have 67,000 and 38,500 people in attendance for each game, respectively.
- Mariners attendance peaked at an average of nearly 44,000 attendees per game during the 2002 season. This attendance level has gradually declined to an average of just over 23,000 attendees per game during the 2011 season. For the base scenario, the average attendance since 2000 (33,500) was used for the base scenario and adjusted to reflect an average weeknight attendance of 30,000 people and average weekend attendance of 37,000.
- The proposed arena would be home to an NBA, NHL and WNBA team (Seattle Storm).
- A representative schedule for the proposed arena was developed using schedules from the Portland Trailblazers (NBA), Vancouver Canucks (NHL), and Seattle Storm (WNBA).

- NBA and NHL games were assumed to be at capacity with 20,000 attendees, and WNBA games were assumed to draw 8,000 attendees (the average since the Storm's 2000 season).
- Concerts, family events and other public and private events at the proposed arena were based on the average number of events at Key Arena during the last 7 years, excluding some events that were assumed to remain at Key Arena such as Seattle University men's basketball games. These events range from 10,000 to 20,000 attendees.

Key Findings | Base Scenario

- The number of events with less than 20,000 patrons would increase from 62 to 127 because most arena events occur on days without events at Safeco Field or CenturyLink Field.
- A sold-out arena event would add approximately 6,000 vehicles to the area.
- The number of days with no events decreases from 193 to 101 with the new arena.
- The number of days with events between 40,000 and 60,000 event patrons increases from 8 to 25 (6 on weeknights and 11 on weekends). This is because there are a few days where the Mariners or Sounders FC would play on the same day as an event at the new arena. However, the start times on most of these days would be offset to reduce parking and traffic impacts.
- The number of days with events over 60,000 event patrons does not increase.

BASE SCENARIO

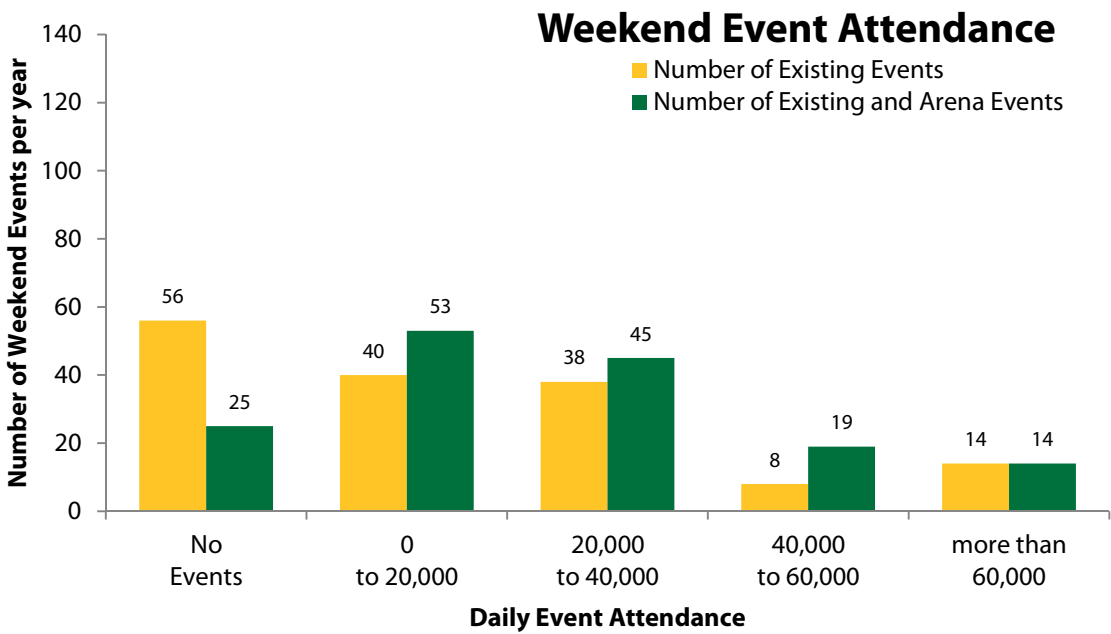
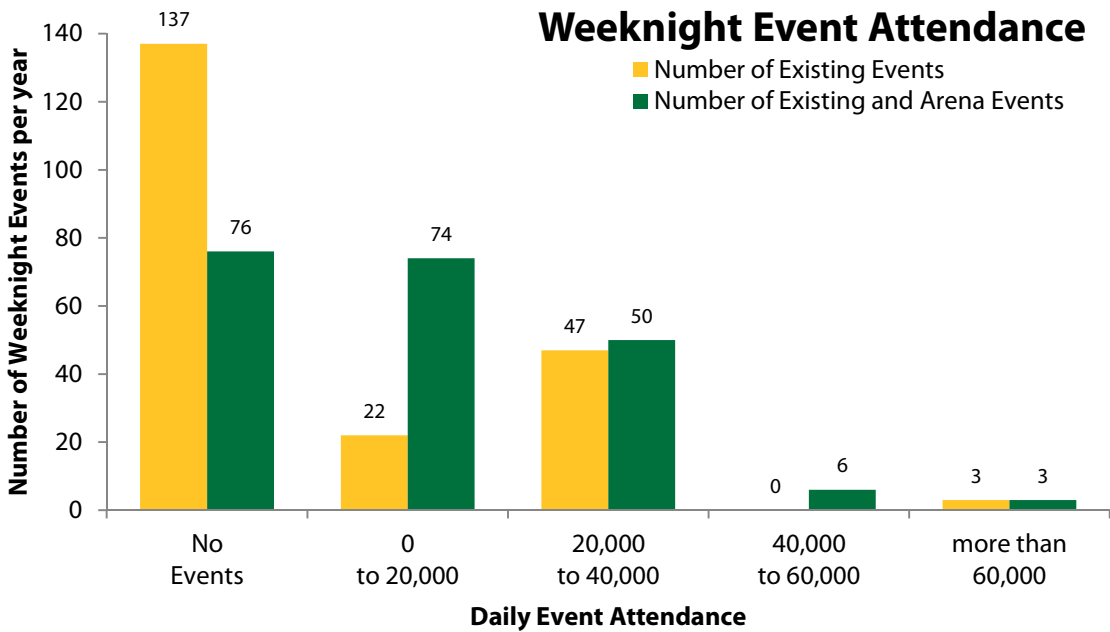


Exhibit 5. Base Scenario Estimated Attendance

BASE SCENARIO EVENTS WITH OVER 40,000 PATRONS

CenturyLink and Safeco Field management associations have conducted surveys to summarize how people travel to games. These surveys are part of their efforts to manage transportation in the area during games. First and Goal is responsible for CenturyLink and the Seattle Mariners for Safeco Field. Working with the City of Seattle, each of these transportation management associations have established goals for reducing the number of people traveling by car. Reducing the number of people traveling by auto is especially important during large attendance event days (assumed to be greater than 40,000 people at one or both venues).

Today, the largest possible combined events are Sounders FC and Mariners weekend games with the potential for 85,500 event patrons (see Exhibit 6). The traffic impact of these events is lessened by staggered game start times unlike Seahawks games and large CenturyLink concerts where all attendees are arriving for the same event start time. Seahawks games cannot be scheduled concurrently with a baseball game at Safeco Field

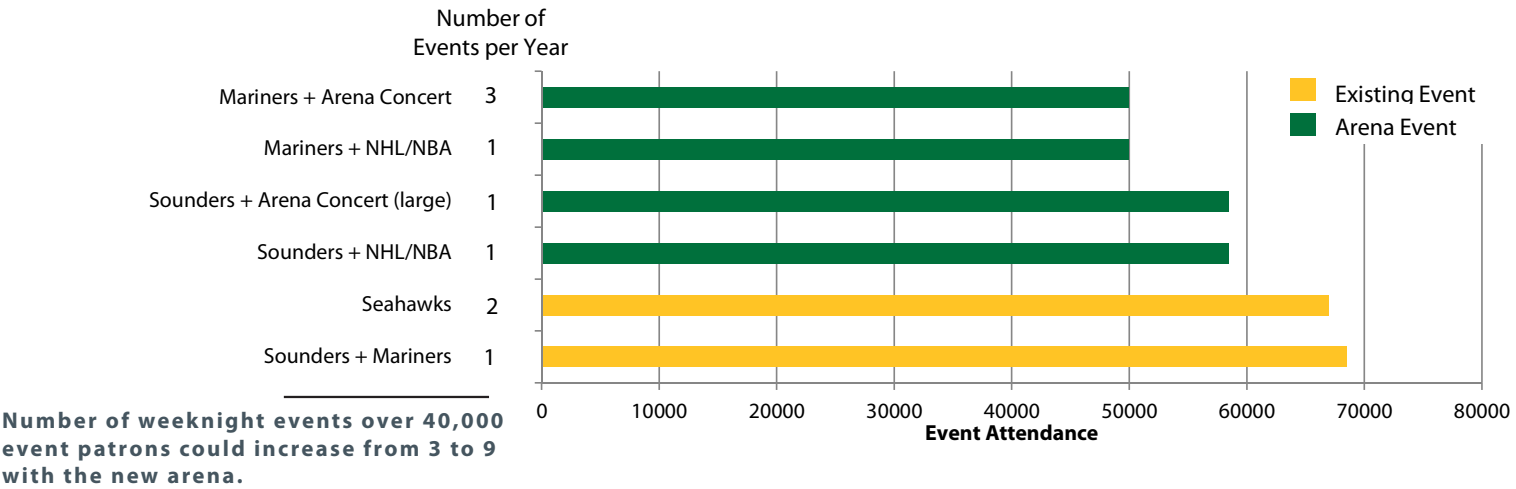
The number of events with attendees over 40,000 is anticipated to increase with the proposed arena. Today, there are approximately 25 events with 40,000 or more event patrons (under assumed baseline conditions). This number of events could increase to 42 events with the proposed arena; however, these additional same-day arena related events would likely have lower attendance than a same-day Sounders FC and Mariners combined event day or a Seahawks event.

Same-Day Event Scheduling

Today, Mariners and Sounders FC games occur on the same day approximately 6 times per year. The end of the first event and start of the second event is typically separated by approximately 3-4 hours. When the starting times of these events have been scheduled close together, traffic impacts are increased and parking becomes more difficult to find. The Mariners reported traffic and parking challenges with these closely scheduled events.

Similar to today, it was assumed that events at the proposed arena would not be scheduled at the same time as Seahawks (NFL) games. Exhibit 6 illustrates the number of event patrons during overlapping events with the arena is still less than Seahawks (NFL) or overlapping Mariners and Sounders FC games. Even with the Base Plus Mariners at 2002 Attendance Levels Scenario, the overlapping events are still not projected to have as many people traveling to the stadium district as compared to Seahawks games.

Base Scenario: Estimated Frequency of Weeknight Events with more than 40,000 event patrons



Base Scenario: Estimated Frequency of Weekend Events with more than 40,000 event patrons

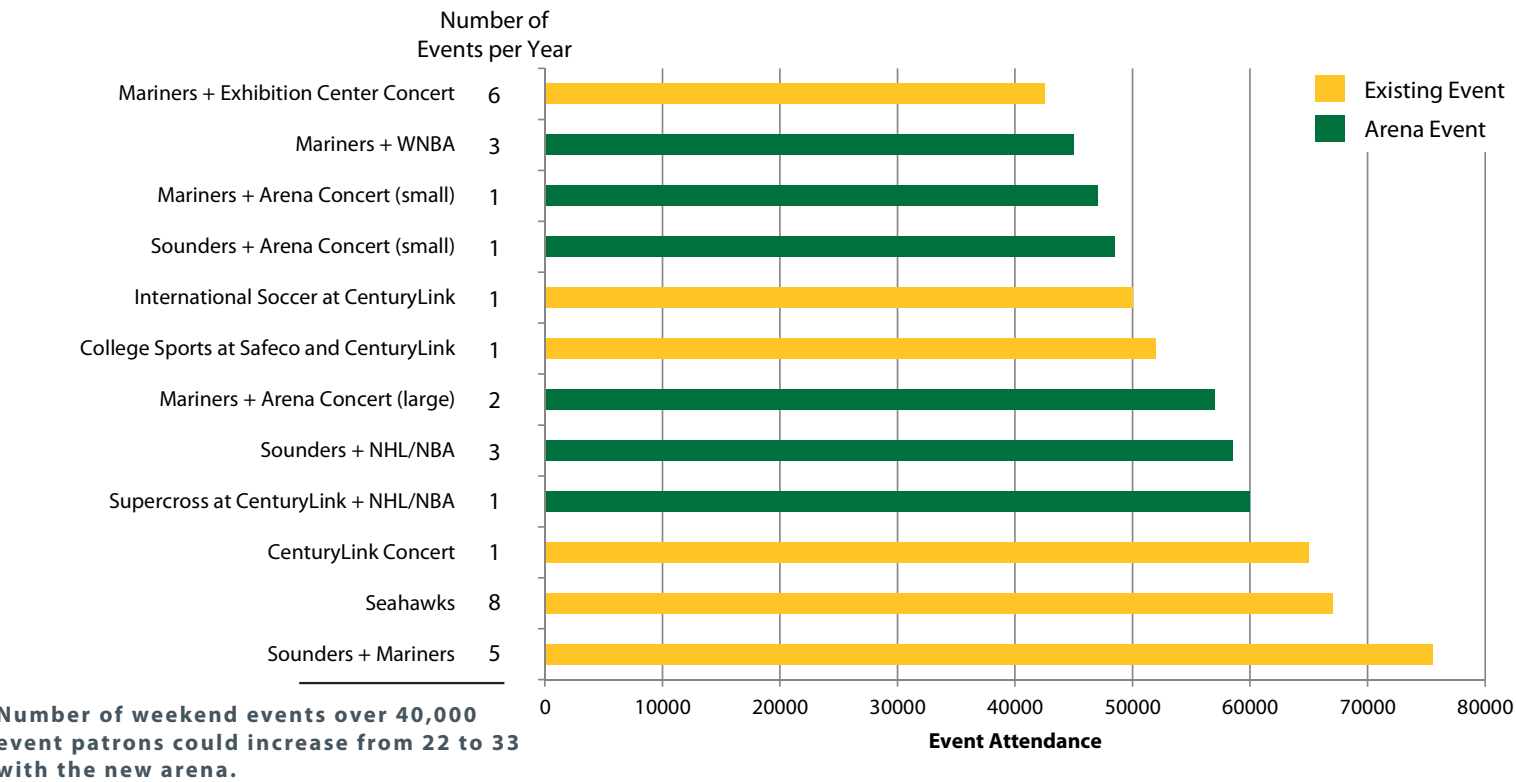


Exhibit 6. Number of Events with over 40,000 Patrons

EVENT SCHEDULE WITH THE NEW ARENA

BASE PLUS MARINERS HIGH REGULAR SEASON ATTENDANCE (2002)

This scenario was developed to examine the transportation impact of a significant increase in Mariners attendance. The highest season for Mariners attendance was 2002, when an average of 44,000 people attended each game (see Exhibit 7). Because the other scenarios assume near sell-out conditions for Seahawks, Sounders FC, and the proposed NHL and NBA teams, only the Mariners attendance level was increased.

Base Plus Mariners High Regular Season Attendance (2002) Assumptions

- All pre-season and regular season games from the Base Scenario, and the non-sporting events at the various venues still occur.
- The Mariners attendance 2002 average attendance was adjusted for weeknight games at 41,000 attendees and weekend games at 47,000 attendees.

Key Findings | Base plus Mariners High Regular Season Attendance (2002)

- The number of events with up to 20,000 patrons would increase from 62 to 127 because many arena events would occur on days without events at Safeco Field or CenturyLink Field.
- The number of days with no events decreases from 193 to 101 with the new arena.
- The number of days with events between 40,000 and 60,000 event patrons decreases from 77 to 76. This is because there are a few days where the Mariners or Sounders FC would play on the same day as an event at the new arena. However, the start times on most of these days would be offset to reduce parking and traffic impacts.
- The existing 77 events shown in the 40,000 to 60,000 event patron range represents the Mariners 2002 attendance levels. This compares to 25 events with the new arena plus average Mariners attendance levels shown in the Base Scenario.
- The number of days with events over 60,000 event patrons increases from 17 to 25 with the new arena. This is because the Mariners are assumed to have very high attendance levels.

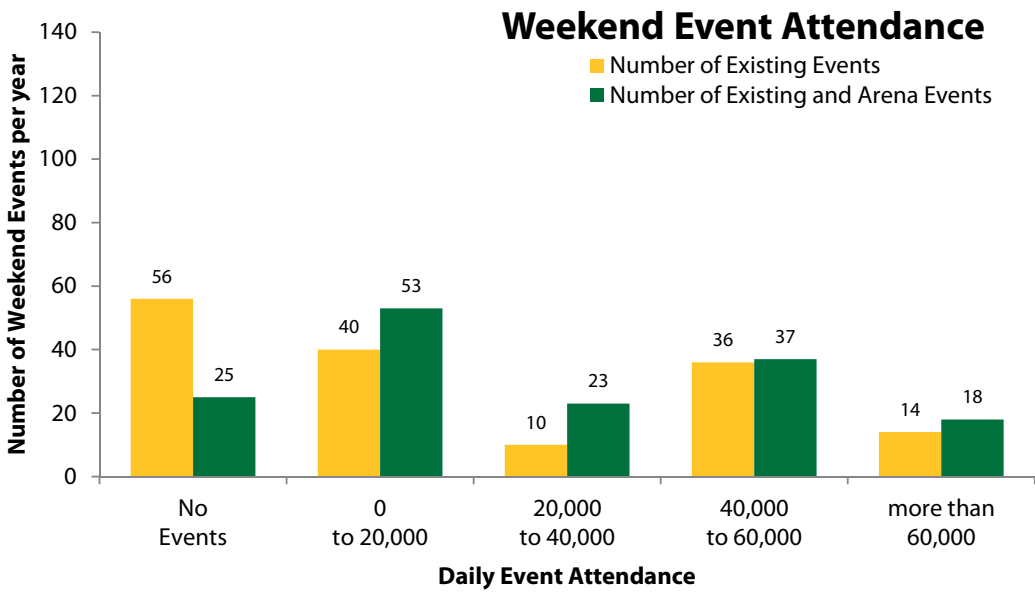
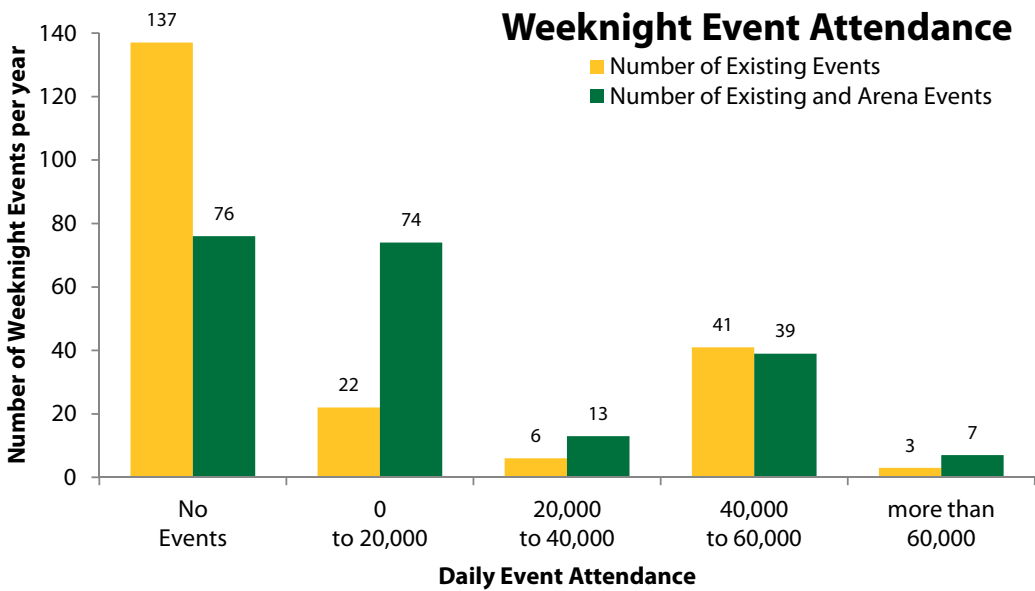


Exhibit 7. Base Scenario plus high Mariners Regular Season Estimated Attendance

BANNER YEAR SCENARIO

This scenario was developed to examine the transportation impact of six professional sports teams in Seattle (Seahawks, Sounders FC, Mariners, Storm, an NHL team, and an NBA team) making it through the regular season and into the final playoff series. This scenario includes both weeknight and weekend events (see Exhibit 8). **This is a highly unlikely scenario but was developed for illustrative purposes only.**

Banner Year Scenario Assumptions

- Mariners are assumed to have an average attendance of approximately 47,000 during playoff games. The regular season attendance is the same as the Base plus High Regular Season Attendance (2002) Scenario.
- No additional attendance was added to Seahawks or Sounders FC because they are already at or near sell-out levels. Also, the base scenario assumes the NFL, NHL, and NBA regular season games would sell-out.

Key Findings

Banner Year Scenario

- The number of events with up to 20,000 patrons would increase from 61 to 128 because many arena events occur on days without events at Safeco Field or CenturyLink Field.
- The number of days with no events decreases from 175 to 76 with the new arena.
- The number of days with events between 40,000 and 60,000 event patrons decreases from 88 to 64. This is because there are a few days where the Mariners or Sounders FC would play on the same day as an event at the new arena. However, the start times on most of these days would be offset to reduce parking and traffic impacts.
- The number of days with events over 60,000 event patrons increases from 20 to 49 with the new arena because all teams were assumed to be in the playoffs.

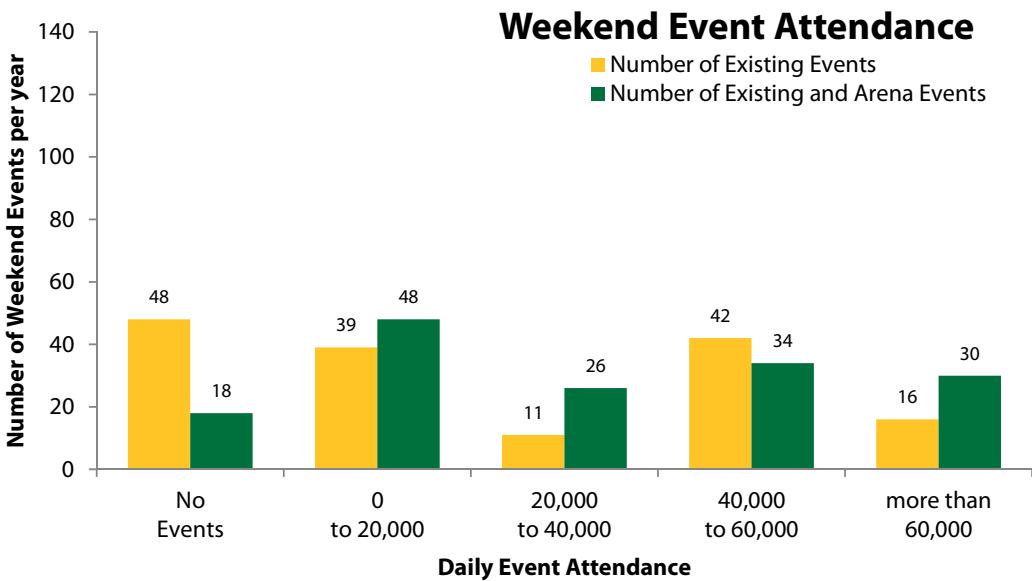
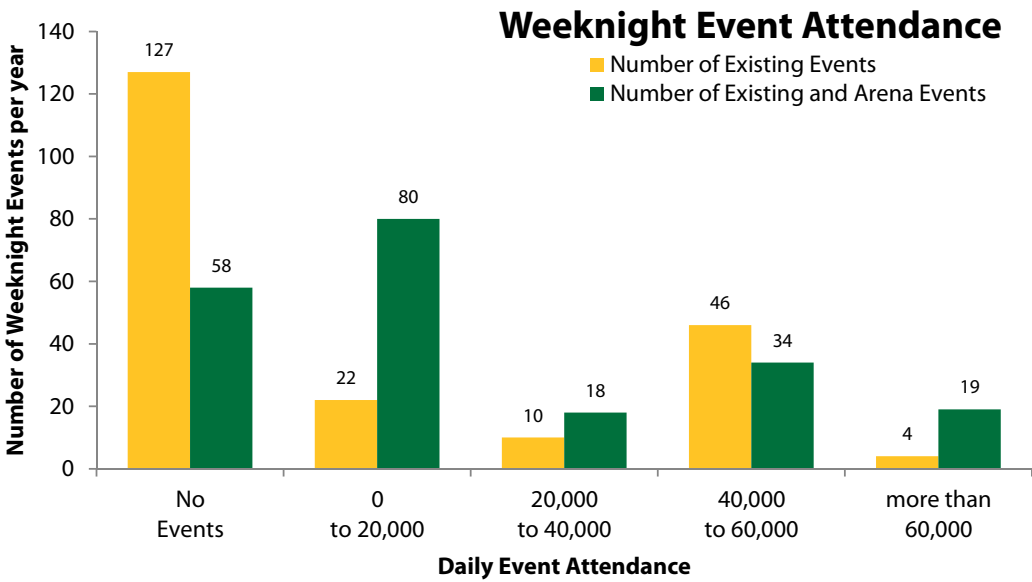


Exhibit 8. Banner Year Scenario Estimated Attendance

# Multimodal Transportation Access

A comprehensive transportation access plan to the event venues in the Stadium District for all modes—auto/parking, rail transit, bus transit, ferry, pedestrians, and bicycles—addresses the need for reliable and timely access to the event venues while minimizing impacts to the Port of Seattle and other freight operations in the area. The goal of the multimodal access plan is to promote mobility options that maximize use of alternative transportation modes.

This section includes:

- A description of the existing Transportation Management Plans at CenturyLink Field and Safeco Field, which establish the base performance standard for the maximum number of event patrons traveling by auto. This performance standard also establishes the number of event patrons that must choose other transportation modes to travel to events.
- Identification of vehicle access routes, parking supply, and transit system capacity to assess whether the same-time/same-day event attendance can be accommodated within the existing and planned transportation system capacity.
- A summary of the estimated number of event patrons traveling to the area by mode, and the overall capacity of each modal system (with planned and funded improvements) for an anticipated opening day and same-day same-time event scenarios.

### SAME-DAY /SAME-TIME EVENTS IMPACTS

The vast majority of events at the new arena would not occur on the same day as events at Safeco Field or CenturyLink Field. The majority of events occurring on the same-day would not occur at the same time, even with the addition of the new arena. The probability of same-day events is slightly higher in the Spring when the Mariners and Sounders FC seasons are starting and provided the NHL and/or NBA teams are in the playoffs.

This study evaluated the impact of overlapping events, which presents a worst-case assessment of traffic and parking impacts in the stadium district. Because the Mariners have more weeknight games, the probability for an arena playoff game coinciding with a Mariners game is higher than for a Sounders FC game.

### Century Link Multimodal Access

In 2009 and 2010, the Seahawks management association reported slightly more than half of their attendees traveled by personal auto to games with average vehicle occupancies of 2.81 in 2009 and 2.69 in 2010. Almost 28 percent of attendees chose to take public rail or bus transit (not including ferry) in the 2010 survey.

	2009 Performance with TMP			2010 Performance with TMP		
	Mode Split	Persons	Vehicles	Mode Split	Persons	Vehicles
Auto	55.0%	39,255	13,964	57.1%	34,217	12,720
Transit - Sounder	X <sup>3</sup>			12.7%	7,610	
Transit - Bus	14.8% <sup>4</sup>	10,563		10.9%	6,530	
Transit - Link	X <sup>3</sup>			4.0%	2,390	
Charter Bus	0.7%	500		1.1%	670	
Rail	10.9% <sup>1</sup>	7,780		0.5% <sup>2</sup>	280	
Ferry/Charter Boat	3.4%	2,427		3.6%	2,185	
Pedestrian/Bicycle	4.8%	3,426		6.0%	3,600	
Drop-off/Taxi/Limo	4.3%	3,069		3.6%	2,390	
Other	0.7%	500		0.4%	260	
Total	100%	71,373		99%	60,132	

1. Includes Sounder Train

2. Amtrak Only

3. Not explicitly recorded

4. Appears to include Light Link Rail

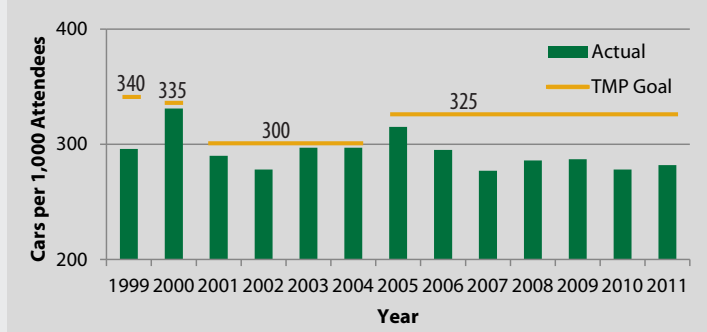
The 2009 mode split does not sum to 100%, as indicated in the table.  
The 2009 AVO is 2.81  
The 2010 AVO is 2.69

### Safeco Field Multimodal Access

As shown in the 2001 Mariners survey (bottom left chart), 82 percent of attendees travelled by auto to games with an average auto occupancy of 3.16. The remaining 18 percent chose to take public transit, to walk, or to bike. Since 2001, the Mariners have established a goal for the number of vehicles per 1,000 event attendees. This measure is one method for determining the impact of attendees driving to events. As the ratio of vehicles to event attendees becomes lower, the number of event patrons who choose to take public transit, walk, or bike increases. As illustrated below, the Mariners have exceeded their goal for auto trips every year.

Mariners	
Travel Mode	Survey
Auto	82%
Transit Bus/Train	8%
Ferry	4%
Walk	4%
Bicycle/Other	3%
Charter Bus	0%
Totals	100%
Average Vehicle Occupancy	3.16

Average Number of Cars per Thousand Attendees at Mariners Games





MODE OF ACCESS PERFORMANCE THRESHOLD

The recent information on how people travel to Safeco Field and CenturyLink Field was used to derive estimates of how event patrons would travel to the proposed arena. Because of the higher probability described earlier of same-day same-time Mariners and Arena events, these were evaluated: 1) Arena overlap with average Mariners attendance; and 2) Arena overlap with 2002 Mariners attendance. For determining the number of auto trips, the 280 vehicles per 1,000 event patrons performance threshold was used. This performance threshold is for the 65,000 to 75,000 attendance range from the CenturyLink Field Transportation Management Plan. Safeco Field has been at or near this threshold for the previous 5 year as illustrated on the previous page.

Mode Split

Exhibit 9 summarizes the estimated mode split for three scenarios based on different performance thresholds for a worst-case same-day same-time event. It provides an understanding of the likely demand for each mode of access (discussed in the following sections).

Performance Threshold	Performance Threshold Scenarios (X vehicles per 1,000 event patrons)			Existing Seahawks Sunday Game
	280	260	240	
Bus	2%	4%	6%	12%
Rail	2%	5%	8%	17%
Walk	4%	4%	4%	4%
Bicycle	4%	4%	4%	4%
Ferry	4%	5%	6%	6%
Auto	84%	78%	72%	57%

Exhibit 9. Projected Mode-Split for New Arena Scenarios

KEY FINDINGS

- When there are more people traveling to events in the stadium district, transit demand increases. This is because parking availability in the stadium district is limited, parking costs increase, and localized traffic congestion causes delay. Transit offers a relatively congestion free trip to and from the game, especially Sounder and Link Light Rail.
- Mariners 2001 to 2011 attendance plus arena event is similar to a present-day Seahawks game.
- In a historical study from 1982 Urban Land Institute Transportation and Parking Issues, the average vehicle occupancy, or average number of people in each car, was reported as 2.30. However, the average vehicle occupancy for CenturyLink Field event patrons has ranged from 2.69 to 2.81 and Safeco Field reported a 3.16 average vehicle occupancy. A conservative estimate for average vehicle occupancy of 2.69 was assumed for the proposed arena event patrons to evaluate demand for parking and other modes.
- Some of the event patrons surveyed walking to games are local area residents, but others are likely walking from areas outside of the parking survey area (Downtown Seattle north of Pioneer Square) or plan to take an alternative mode such as transit when leaving the game.



# Auto Access

Event patrons who choose to drive typically park in or near the stadium district. The willingness of people to pay for convenient parking (the more expensive parking is located closer to the stadiums), their ability to walk longer distances, and their familiarity with the area, influences their decision for where to park. Typically, event patrons don't drive alone to sporting events—the average number of people in vehicles to stadium district events ranges from 2.69 to 3.16.

Regional and local roadways provide a number of access points to parking in the stadium district (see Exhibit 10). Regional routes such as I-5, I-90, and SR-99 are heavily used by people driving to the stadium and become congested during larger events. These routes access the parking facilities that most directly serve CenturyLink Field, Safeco Field, and the proposed arena parking. These routes experience higher than normal congestion during weekday evening commute times between 3 PM and 7 PM. Because available parking is spread throughout the stadium district and north into downtown, some of the congestion around the stadium is associated with people searching for available parking. This is especially true nearing the start of well-attended events.

Some of the regional route congestion could be reduced by distributing auto access to other local and lesser used routes such as 1st Avenue S., 6th Avenue S., Airport Way S. and S. Forest Street. SR 99 from areas south and west of Downtown Seattle also becomes a more viable route into the Stadium District in the future with direct access to the new Dearborn Street ramp connection west of CenturyLink Field. These shifts in traffic would likely require making additional information to drivers to guide their route decision choices and help alleviate congestion at bottlenecks such as Edgar Martinez Way S. and the 4th Avenue S. ramps from I-90 and I-5.

### Access Routes to Stadium District

#### I-5 Southbound

- James Street to 2nd Avenue S
- 6th Avenue S
- Dearborn Street
- 4th Avenue / Edgar Martinez Way
- Airport Way / Massachusetts Street / Holgate Street
- Forest Street

#### I-5 Northbound

- 6th Avenue S
- 1st Avenue S
- Dearborn Street

#### I-90 Westbound

- 4th Avenue S / Edgar Martinez Way
- Rainier Avenue to Dearborn Street
- James Street to 2nd Avenue S

#### West Seattle Access

- SR 99 / Alaskan Way
- 4th Ave S

#### SR-99 and Local Access

- Dearborn Street
- SR 99 / Alaskan Way
- 1st Avenue S
- Airport Way



Exhibit 10. Auto Access Map



# Parking

There will be a range of parking needs depending on the type of events, the potential for event overlap, and attendance levels. Exhibit 11 illustrates existing and potential future parking within a 15-minute walk distance (approximately ¾-mile radius) of the new arena.

The range of parking needs is 6,000 for an arena only event and 17,100 for a same-day same-time weeknight event at Safeco Field (41,000 attendance) and the proposed arena (20,000 attendance). The high end of the range is an extremely rare event that would not occur if teams did not make the playoffs, or could occur up to 5-6 times at the very most if all teams made extended runs in the playoffs.

A total of 20,100 existing, planned, and dedicated arena parking would be available for a same-day same-time event. This does not include the number of stalls made available by private businesses on event days. The table below and adjacent text summarizes the parking supply information.

LOCATION	PARKING STALLS
A. Existing Off-Street Parking	12,400
B. Existing On-Street Parking	1,000
C. Arena Parking	1,500
D. Potential Parking	2,000
E. Expanded ¾-mile area North of Safeco Field	3,200

TOTAL 20,100

**DATA**

Parking data sources include the City of Seattle, the Puget Sound Regional Council year 2010 Seattle parking inventory data, the Washington State Public Stadium Authority.



Over 57,000 parking spaces are also available in the downtown Seattle area

**A. Existing Off-Street Parking**

Both surface parking and structured parking lots are available for use within the study area. The number of parking stalls for each facility ranges from 10 to 2,000. The larger structure and surface lots that provide over 200 stalls are highlighted on the map. These parking areas account for over 85% of the total parking in the study area.

**B. Existing On-Street Parking**

There are approximately 1,500 existing on-street parking spaces within a 15-minute walk of the arena. Existing utilization during a non-event evening was approximately 25%. This leaves slightly more than 1,000 existing on-street parking space available during arena events.

**C. Arena Parking**

The arena management team is evaluating the provision of additional parking that could total 1,500 new stalls. An agreement to use an additional 1,000 existing off-street parking spaces would also be required, and was assumed to be part of the 2,000 potential parking spaces listed below.

**D. Potential Parking**

The City of Seattle has identified the potential for an addition of up to 2,000 off-street parking stalls that are currently under consideration for construction within the ¾-mile walking radius of the arena.

**E. Expanded ¾-mile area North of Safeco Field**

The highest same-day attendance event includes the arena and Safeco Field. Safeco Field is located about ½ of a mile north of the arena; therefore, additional parking facilities are available within an expanded ¾-mile ring north of Safeco Field. A preliminary investigation found the number of additional off-street parking stalls associated with events at Safeco Field within an expanded ¾-mile ring is in excess of 3,200 stalls.



Exhibit 11. Available Parking within ¾-mile of the New Arena



# Transit Access

Regional public transit providers offer a number of ways for event patrons to access the stadium district including bus, ferries, light rail, and commuter rail (see Exhibit 12). The capacity of the public transit services to transport people to events varies by time of day (peak commuter period or evening services) and weekday or weekend service. Many of these regional transit services connect to park-and-ride facilities (see Exhibit 14). The estimated future capacity for each transit mode is summarized in Exhibit 13.

## BUS TRANSIT

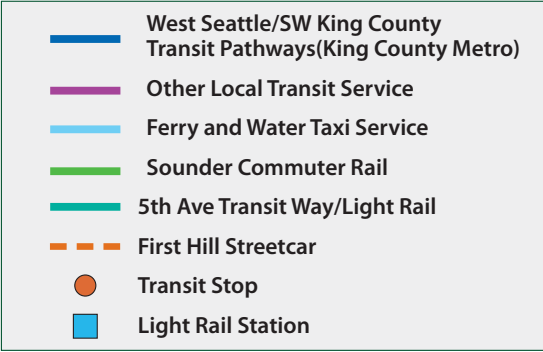
As illustrated in Exhibit 10, bus transit is concentrated on SR 99/Alaskan Way, 4th Avenue S., 3rd Avenue S., SODO busway (5th Avenue S.) and I-90. Bus service is currently provided by Metro Transit, Sound Transit, and Community Transit. The primary bus stop serving the stadium district is on 4th Avenue S. The future surface Alaskan Way has a proposed bus stop near Dearborn Street, which would provide closer access to the stadiums for bus riders from West Seattle and areas to the south. Previously, these bus riders would have to connect to downtown Seattle to the north along Seneca Street.

There are a significantly higher number of buses leaving the downtown Seattle core during the weekday afternoon commuter periods than entering the downtown. The number of buses in service on routes in the stadium district is lower during evening and weekend service and headways (time between buses at a bus stop) are longer. Late evening and weekend service typically have 30 to 60 minute headways; whereas peak commute periods (between 3 PM and 7 PM) operate on 10 to 30 minute headways.

Previously, Metro provided special park-and-ride lot service for Seahawks weekend games between Northgate Transit Center, South Kirkland Park and Ride, and the Eastgate Park and Ride—this special service was not provided for weeknight games. For Sounders FC, a special bus service was cancelled in May 2012 due to low demand. Instead of the special service, extra coaches were added on regular Metro service to downtown Seattle, as needed, to accommodate Sounders FC fans (source: Metro Transit website).

## Estimated Bus Transit after Events

Buses into downtown and the stadium district are less used and have capacity to accommodate people traveling to the stadiums; however, this transit service generally operates on 30 to 60 minute headways, which is similar to weekend bus service. After 10 PM, there are approximately 48 buses passing through the stadium district for patrons to use, including buses currently traveling on the Alaskan Way Viaduct. This provides capacity for approximately 3,800 people.



MODE OF ACCESS	CAPACITY
Link Light Rail	5,100
Bus	3,800
Sounder	3,000
Ferry	4,200

Exhibit 13. Summary of Estimated Transit Capacity



Exhibit 12. Transit Access Map



**LIGHT RAIL TRANSIT**

Sound Transit currently provides Link light rail service from downtown Seattle to the SeaTac Airport. Funded system expansions include light rail service along I-90 through Bellevue to Overlake Transit Center in Redmond, along I-5 north to Lynnwood, and between SeaTac Airport and Kent-Des Moines Road. All of these rail extensions are scheduled to be completed by 2023, with portions of the service opening sooner. This transit service connects to regional park and ride facilities that can accommodate up to 13,000 vehicles (see Exhibit 14).

Light rail transit provides riders with a reliable and uncongested trip into and out of downtown because routes are entirely in dedicated right of ways. Also, light rail will operate at frequent headways (no longer than 15 minutes between trains) in the evening. The nearest light rail station for North and South Link is Stadium Station located on 5th Avenue S at Royal Brougham Way. This station is a 10-minute walk to the new Arena. The nearest light rail station for East Link is the International District Station, which is located near King Street and 5th Avenue (approximately 2⁄3-mile from the proposed Arena and 1⁄3-mile from CenturyLink Field).

**Estimated Light Rail Transit after Events**

The current planned service would operate 2 car trains (approximately 160 people per car or 320 per train). Headways are anticipated to be 7.5 minutes on North Link, and 15 minutes on Airport Link and East Link after 10 PM. This is important because weeknight events are typically ending later in the evening when transit service levels are reduced. These anticipated service levels provide one-way capacity for approximately 5,100 passengers.

**WASHINGTON STATE FERRIES TRANSIT**

Washington State Ferries (WSF) and King County provide ferry service at Colman Dock, which is located near Alaskan Way and Yesler Way. Colman Dock is less than 1 mile from the proposed Arena and 1⁄2-mile from CenturyLink Field.

**Estimated Ferry Service after Events**

WSF provides a combined vehicle and passenger service to Bainbridge Island and Bremerton. Service is provided approximately every 50 minutes during weekdays and weekends to Bainbridge Island and approximately 70 minutes to Bremerton. The ferries serving these routes are some of the largest ferries in WSF’s fleet and capable of transporting over 4,200 walk-on passengers (in addition to vehicle passengers) following a stadium event.

**PASSENGER FERRY TRANSIT**

King County provides passenger only ferry service between West Seattle and Vashon Island. Ferries leave to West Seattle approximately every 30 minutes during the evening commute period until the last sailing at 6:45 PM. During Fridays and evening weekday Mariners and Sounders FC events, ferry service is extended to 10:30 PM with ferries departing hourly from Waterfront Pier 50. Saturday and Sunday has hourly departures from 8:30 AM to 7:30 PM with service extended to 10:30 PM on Saturdays only. Passenger only service to Vashon Island departs hourly from Seattle between 4:30 PM and 6:30 PM for weekdays only.

**Estimated Passenger Ferry Service after Events**

These vessels have a capacity of 150 passengers and 18 bicycles and have only one sailing for weekend late night games.

**SOUNDER COMMUTER RAIL**

Sound Transit Sounder commuter rail service provides service between Tacoma and Seattle’s King Street Station (with stops in Puyallup, Sumner, Auburn, Kent, and Tukwila) and between Everett and Seattle (with stops in Mukilteo and Edmonds). Sounder has regular weekday morning and afternoon service only. Trains leave Seattle approximately every 30 minutes in the evening commute period. Only one train comes to downtown from the north during the late evening and two trains from the south in the evening commuter period.

**Estimated Sounder Service after Events**

Select major weekend events for Mariners, Seahawks, and Sounders FC games are also served. Only one inbound train is scheduled for weekend day games to Seattle and from Tacoma and Everett and one outbound train departs approximately 30 minutes after the last out or end of match. Sounder BiLevel coaches have a capacity for approximately 360 passengers in each coach. The estimated capacity of Sounder commuter rail to serve events is approximately 3,000 people.

**CHARTER BUS**

In 2009 and 2010, the CenturyLink Transportation Management Association reported that between 0.7% and 1.1% of attendees used a charter bus to travel CenturyLink Field. This accounts for between 500 and 670 attendees. Historical limitations of this type of service have been that coaches couldn’t accommodate disabled fans and were expensive. Because of low use by attendees, this mode of access was not assumed as part of the proposed arena analysis.



# REGIONAL TRANSIT CONNECTIONS AT PARK AND RIDE LOTS

## KEY EXISTING AND PLANNED PARK AND RIDE LOCATIONS (>200 SPACES) ON PRIMARY TRANSIT CORRIDORS

There are currently over 35,000 parking spaces at Snohomish, King and Pierce County park and ride lots accessible to the arena study area by bus and/or rail (see Exhibit 14).

The park and ride lots shown to the right account for approximately 23,000 of the existing spaces. The remaining 12,000 existing spaces exist at smaller lots (<200 spaces) with transit connections to the major trunk lines shown in the figure.

Planned Link Light Rail Stations are expected to add over 5,000 park and ride spaces, bringing the total number of park and ride spaces in the 3-county region to about 40,000.

Including planned park and ride spaces, there are expected to be over 13,000 parking spaces at Link Light Rail Stations.

In addition to the Park and Ride Lots listed, the parking lot north of Husky Stadium has approximately 3,000 spaces that people may use to park and connect with light rail at the Husky Stadium station.

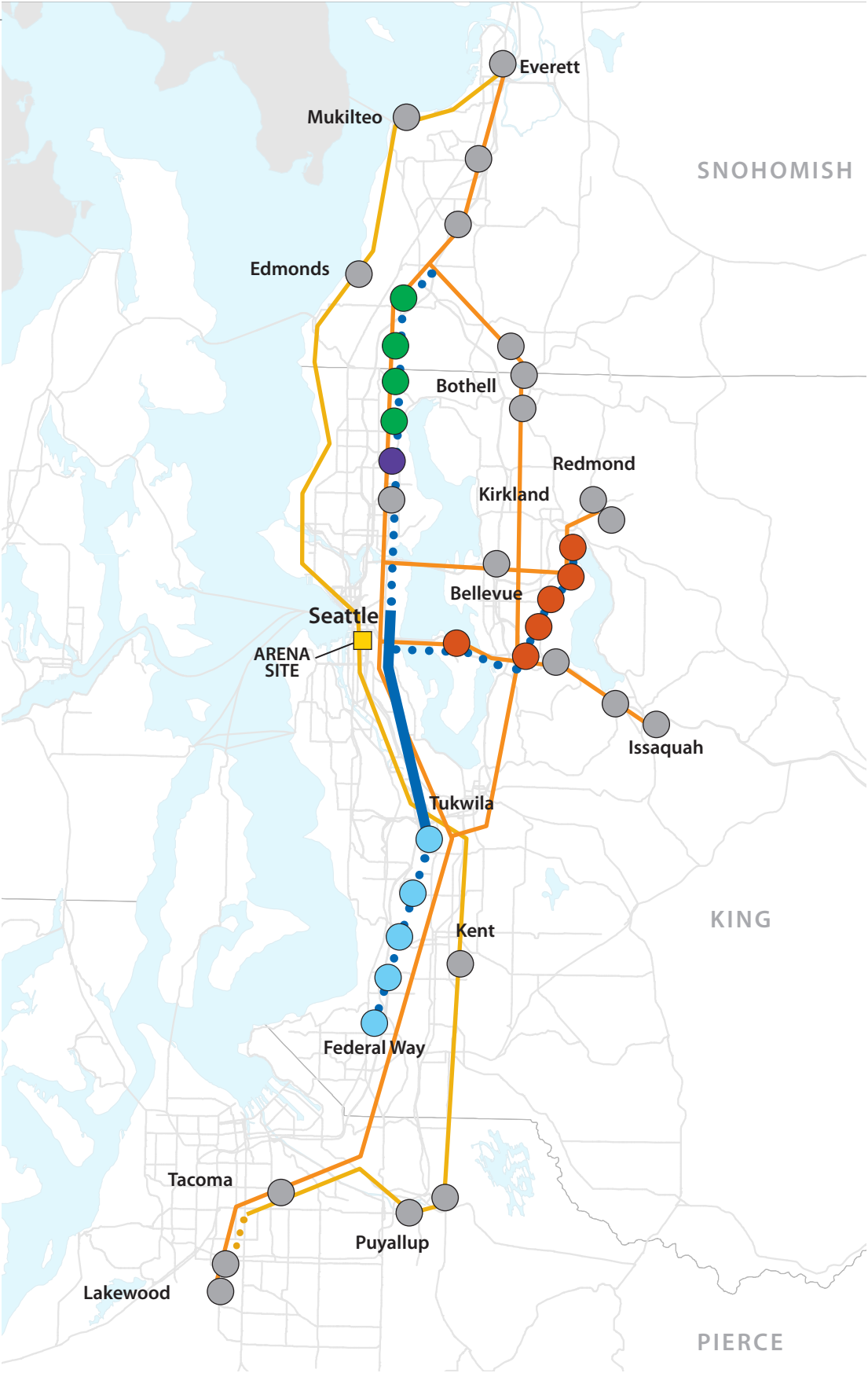
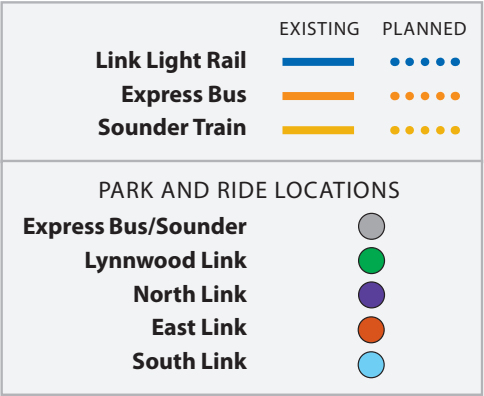


Exhibit 14. Regional Transit Connection at Park and Ride Lots

	EXISTING	PLANNED	TOTAL	
PARKING SUPPLY AT LINK LIGHT RAIL STATIONS	Lynnwood Transit Center	1,400	+500	1,900
	Mountlake Terrace Park and Ride	900		900
	185th Station	0	+500	500
	145th Station	0	+500	500
	Northgate	1,500		1,500
	Mercer Island Park and Ride	450		450
	South Bellevue Park and Ride	500	+900	1,400
	120th Station	0	+300	300
	130th Station	0	+300	300
	Overlake Park and Ride	200		200
	Overlake Transit Center	200	+100	300
	Tukwila International Blvd Station	600		600
	South 200th St Station	0	+1,100	1,100
	Kent – Des Moines Park and Ride	350	+700	1,050
	Star Lake Park and Ride	500		500
	Federal Way Transit Center	1,200	+700	1,900
	Total	7,800	+5,600	13,400
PARKING SUPPLY AT SOUNDER STATIONS	Everett Station	(see below)		
	Edmonds / Mukilteo Station	200		
	Tukwila Station	200		
	Kent Station Transit Center	1,100		
	Auburn	1,000		
	Sumner Station	400		
	Puyallup Station	350		
	Tacoma Dome Station	2,400		
	Lakewood Station	600		
	Total	6,250		
PARKING SUPPLY AT EXPRESS BUS PARK&RIDES	Everett Station	1,100		
	South Everett Freeway Station	400		
	Ash Way Park and Ride	1,000		
	Greenlake Park and Ride	400		
	Bothell Park and Ride	200		
	Brickyard Road	450		
	Kingsgate Park and Ride	500		
	South Kirkland Park and Ride	600		
	Bear Creek Park and Ride	250		
	Redmond Park and Ride	350		
	Eastgate Park and Ride	1,600		
	Issaquah Transit Center	800		
	Issaquah Highlands Park and Ride	1,000		
	I-5/SR 512 Park and Ride	500		
	Total	9,150		

# Multimodal Transportation Plan Summary

A rare same-day same-time Mariners game with high regular season attendance (2002 levels) and a sold-out arena event could be accommodated with the future funded roadway improvements, added parking supply, and major expansion of the Link light rail transit system.

Same-day events with event start times separated by a couple of hours are not included in this section because their demand on parking and transit services is less and spread out over time.

In comparison to an existing Seahawks game, this worst-case scenario would result in approximately the same number of event patrons traveling to the stadium district. However, there would be transportation improvement projects to increase parking supply and public transit service levels as follows:

### Parking Supply Increase

Parking supply is anticipate to increase from today by approximately 3,500 spaces. This includes dedicated arena parking plus potential future parking areas within ¾-mile walking distance of the new Arena.

### Light Rail System Expansion

The addition of major regional transportation projects, such as Link light rail extensions to Lynnwood (North Link), Redmond (East Link), and Kent/Des Moines (South Link extension) improve regional transit service. In the future, it is estimated that light rail would be able to accommodate 5,000 people or more after a weeknight event with proposed service levels.

Exhibit 15 illustrates a range of possible outcomes for event patrons traveling to and from the event venues.

These charts show:

- Parking supply approaches capacity using the current Transportation Management Plan performance threshold of 280 vehicles per 1,000 event attendees.
- The estimated number of people traveling to a same-day same-time event could be accommodated.
- The proposed public transit service has the ability to accommodate a larger percent share of event patrons, which reduces the number of parking spaces needed.

Over time, the number of people choosing to drive would likely decrease and transit use would increase as the light rail system expands. This is because light rail provides a convenient and reliable choice for traveling to events.

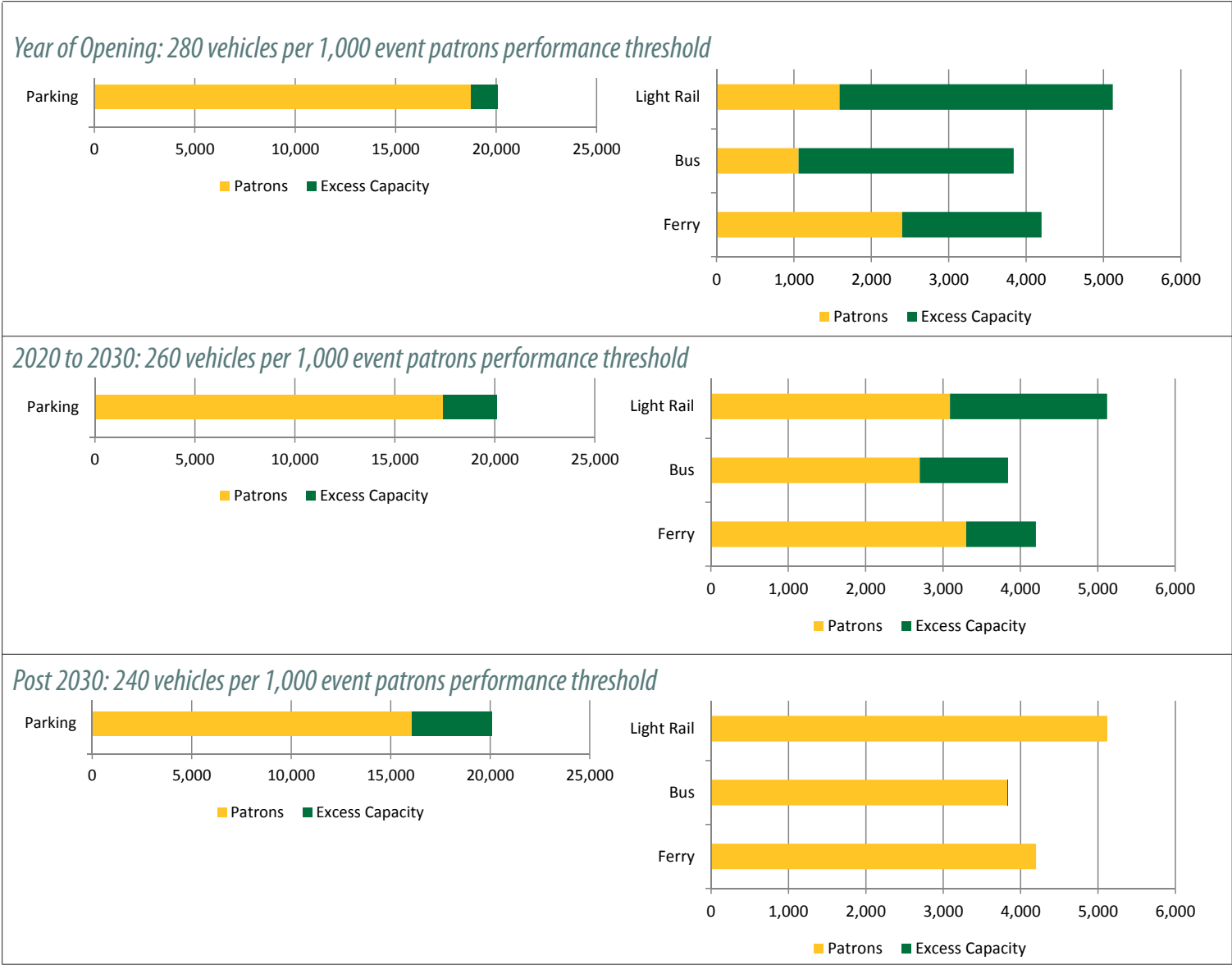


Exhibit 15. Range of Patron Travel Choices

### PEDESTRIAN ACCESS

The number of event patrons walking and bicycling was not evaluated. Today, the number of event patrons who bike to Mariners and Seahawks events is low, especially for evening games. It is anticipated that arena events would be similar, although there would likely be some secure parking for bicycles at the new arena. Bicycle use to Sounders FC events is higher and there are adequate existing routes to access the stadium using major corridors such as S. Dearborn Street, S. Jackson Street, and Alaskan Way.

The number of pedestrians on roadways dissipates as the distance away from the arena increases. Close to the arena, this project proposes to designate Occidental Avenue S. between Edgar Martinez Way S. and Massachusetts Street S as a pedestrian only street before and after events. This would accommodate the areas with the highest volume of pedestrians. North of Edgar Martinez Way S, sidewalk widths are adequate to accommodate the high number of pedestrians as they begin to fan out to reach their parking location or transit station/stop.



# FREIGHT TRANSPORTATION

The Sodo district is the home of Port of Seattle container terminals 46 and 30, intermodal rail transfer yards, major rail lines and truck routes (see Exhibit 16). All of the arterial and local access streets in Sodo have a high percentage and volume of truck traffic from the Port of Seattle and other industrial, manufacturing, and warehousing business in the area.

The Port of Seattle is the 6th largest U.S. port in 2011 based on the Twenty-foot Equivalent Units (TEUs) volume. Exhibit 17 illustrates the ten-year history of TEUs and projections to the year 2037 at the Port of Seattle container terminals. The highest TEU volume occurred in 2010, at 2.1 million TEUs.

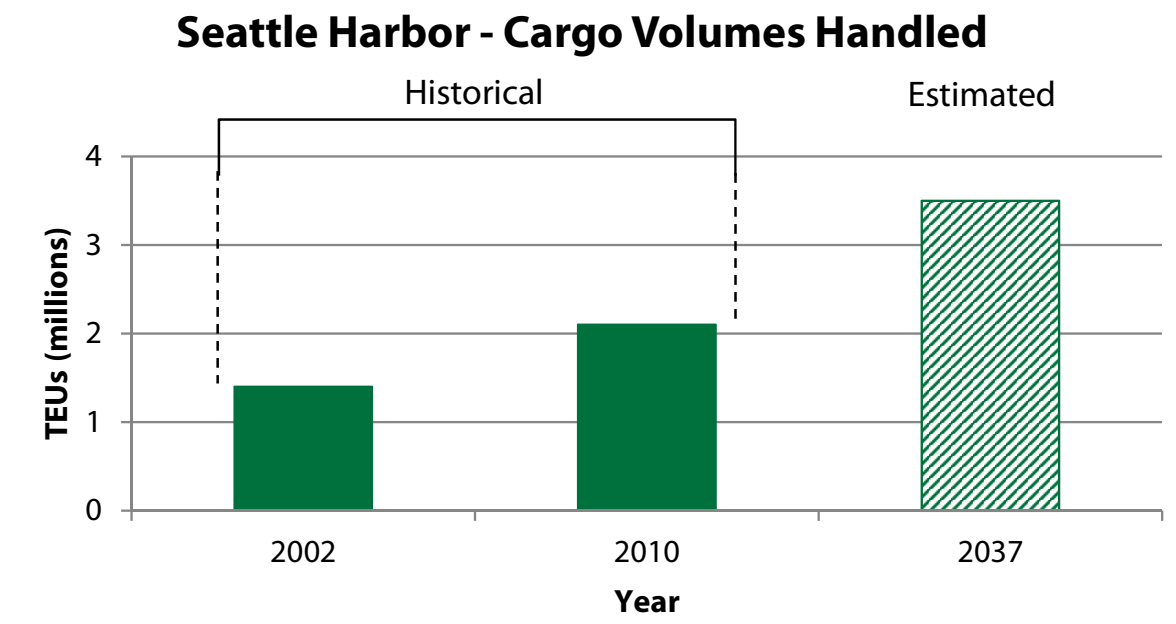


Exhibit 17. Cargo Volumes Handled at Seattle Harbor

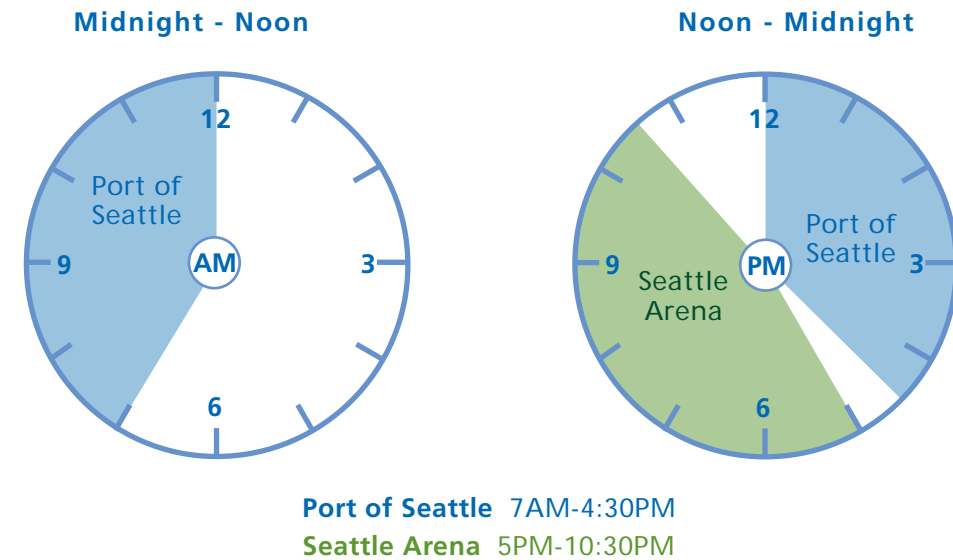


Exhibit 16. Freight Transportation Access



### PORT OPERATIONS

Peak activity at the container terminals generally occurs during fall months, September through November. When container ships are in port, dray activity (transfer of containers from ship to rail intermodal yard by truck) often extends into the evening. The dray movements between Terminal 46 and 30 and the BNSF SIG intermodal transfer facility occur on E. Marginal Way, S. Hanford Street, and S. Massachusetts Street. Regular hours for container terminal operations are 7 am to 4:30 pm at Terminal 46 (see illustration below), and 8 am to 4:30 pm at Terminal 30, Monday through Friday. The terminals are closed on weekday evenings and on weekends when the majority of sports and other events take place at the new arena. Weeknight start times for NBA, NHL, and WNBA games would likely be 7:35 pm. Since most arena event attendees would arrive at the facility no earlier than 2 hours prior to game time, conflicts between Port of Seattle container terminal traffic and arena traffic would be minimal.



Burlington Northern Sante Fe (BNSF) operates major rail lines through the area for both passenger and freight rail service. At-grade crossings of the BNSF mainline exist at S. Horton Street, S. Lander Street, and S. Holgate Street. The SR-519 project recently provided a new grade-separated overpass over the BNSF mainline for both vehicular traffic and pedestrians.

Several funded roadway infrastructure projects will benefit freight movements in the region as shown in Exhibit 18. These projects include the Alaskan Way Viaduct Replacement, Spokane Street improvements, Atlantic Street Overpass, and East Marginal Way Grade Separation project. All of these projects will be completed and operational by the year 2016, the earliest possible year of opening for the new arena.

### Stakeholder transportation concerns in the area include:

- Congestion at the S. Atlantic Street/1st Avenue S. intersection—Truck traffic accessing Terminal 46 and Terminal 30 and other vehicles accessing I-90 in both directions travel through this intersection causing congested conditions during morning and midday hours. Event traffic to CenturyLink Field and Safeco Field also contribute to traffic congestion at this intersection, mostly on weekday evenings and weekends when events are scheduled.
- Lack of reliable east-west access routes—Most of the east-west streets are discontinuous due to rail lines or other uses. S. Lander Street and S. Holgate Street are the only east-west streets extending from Airport Way S. to 1st Avenue S.
- Access to the BNSF SIG Yard—Existing access to the North and South SIG yards are constrained at times by at-grade rail crossing delays on S. Atlantic Street and S. Horton Street.
- Completion of the S. Lander Street overpass—An overpass between 1st Avenue S. and 4th Avenue S. over the BNSF main line would provide an unimpeded east-west access route for trucks to access the Port of Seattle container terminals and other Sodo businesses. Traffic is currently delayed by the significant number of passenger and freight rail trains using this at-grade crossing. While the project would reduce delay for freight movements in Sodo, the project cost is estimated at \$180 million. The project has been placed on hold as of March 2008 due to funding limitations, the future schedule of this project is unknown at this time, though the project remains a priority for SDOT.
- Impacts from sports venue traffic on high-use freight corridors such as East Marginal Way and Alaskan Way, especially during the occasional weekday daytime event that may occur at the new arena.
- Increased traffic from the Eastside using I-90 due to tolling on SR-520, worsening traffic congestion at the S. Atlantic Street/1st Avenue S. intersection and in the overall area.



FREIGHT TRANSPORTATION

The adjacent map illustrates funded roadway capital improvement projects near the new arena that would benefit transit, freight, and the traveling public.

TRANSIT CAPITAL IMPROVEMENT PROJECTS

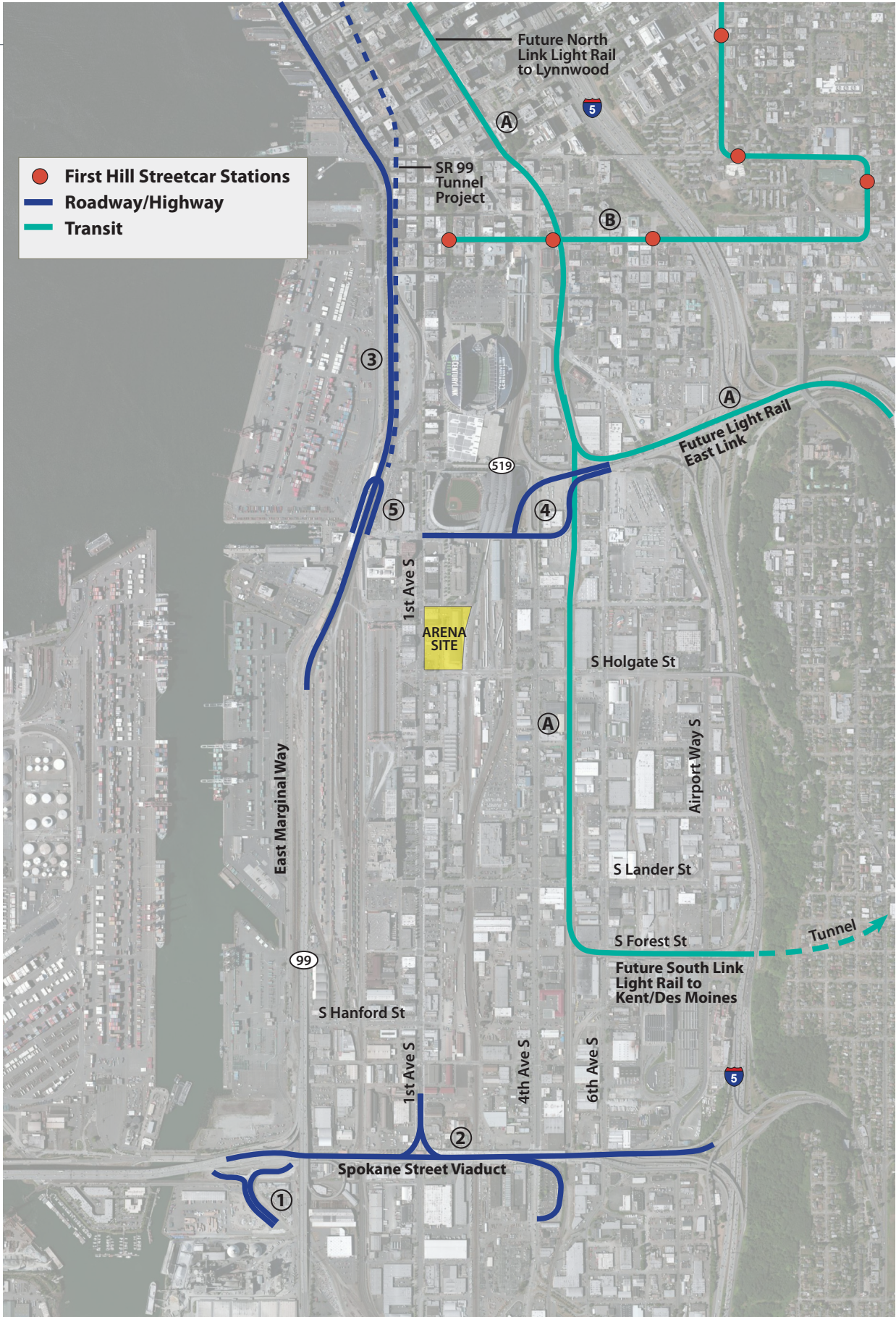
- A

**Sound Transit East Link Light Rail**

This project will connect to the existing light rail system in downtown Seattle at the International District/Chinatown Station and extend the system east to Mercer Island, Bellevue and the Redmond Overlake Transit Center Station. It is anticipated to provide frequent and reliable High Capacity Transit (HCT) service between downtown Seattle and eastside communities 20 hours per day, six days of the week (18 hours per day on Sundays). Service is scheduled to begin in 2023.
- B

**First Hill Streetcar**

This project is anticipated to be substantially completed in early 2014. It constructs a modern, low-floor streetcar system connecting First Hill employment centers to the regional Link light rail system, including the International District/Chinatown Station and Capitol Hill Station. The system will provide reliable, frequent service (10 minute headways during peak periods) and operate the same hours as the light rail system.





FREIGHT AND ROADWAY CAPITAL IMPROVEMENT PROJECTS

- 1

**East Marginal Way Grade Separation**

This project will provide a north and south-bound grade separation on Duwamish Avenue South, relocating East Marginal Way through this corridor to improve access among Port terminals, UPRR and BNSF rail yards, and local manufacturers’ and distribution warehouses.
- 2

**Spokane Street Viaduct Widening Project**

This project would impact both the lower and upper roadways of Spokane Street, 1st Avenue, 4th Avenue, 6th Avenue and other adjacent streets. The project creates a new two-lane eastbound off-ramp leading to 4th Avenue South, relocates the westbound on- and off- ramps to a new 1st Avenue South ramp, widens the upper roadway between 6th Avenue S and East Marginal Way and rebuilds the lower roadway with new curbs, sidewalks and improved pedestrian and bicycle access. This project is anticipated to be completed in 2012
- 3

**Surface Alaskan Way and SR 99 Tunnel**

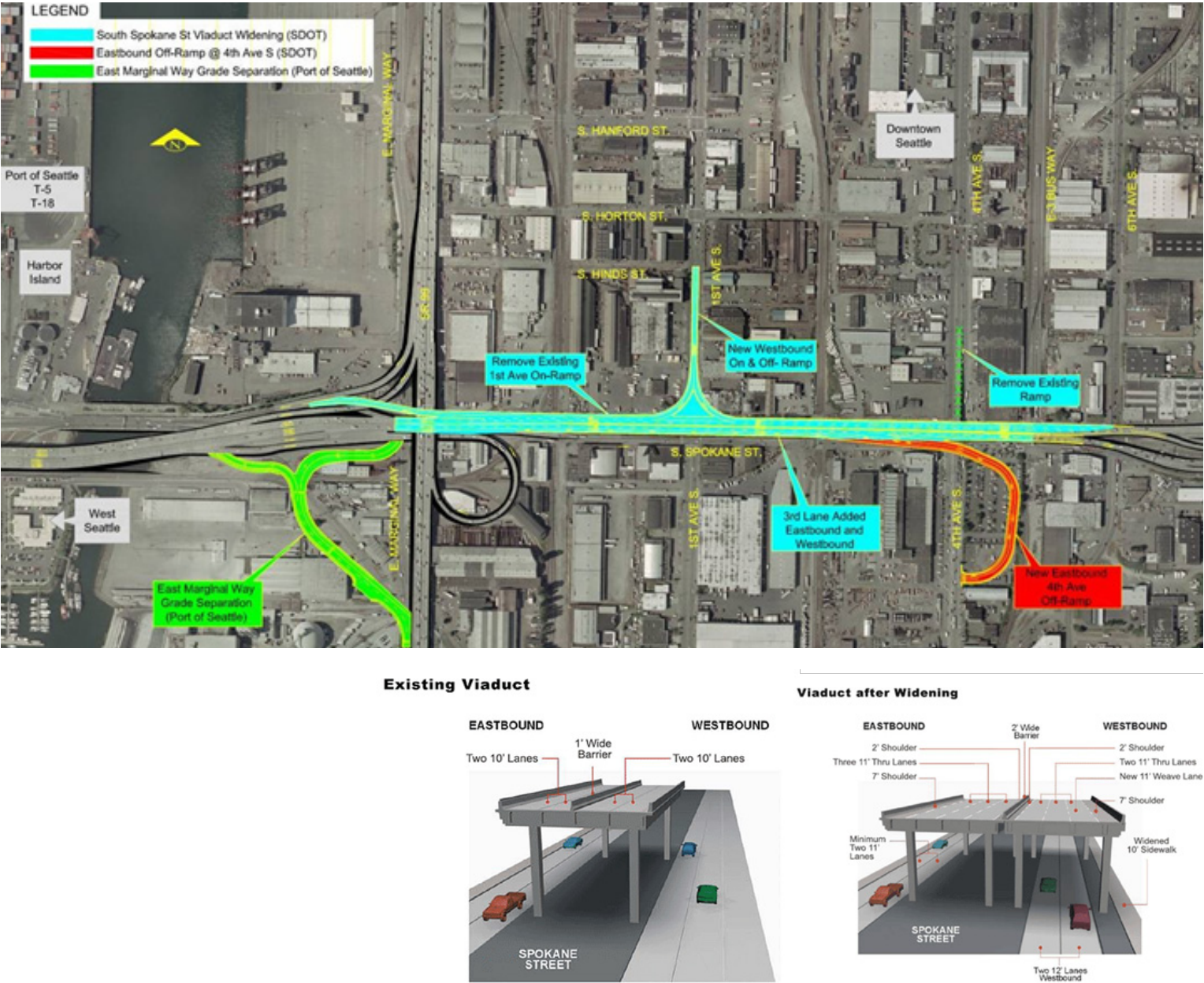
This project includes the SR 99 South Holgate Street to South King Street Project (anticipated to open in 2013) and the SR 99 Tunnel Project (anticipated opening in 2015). The estimated cost of the two projects is \$3.1 billion. Improvements to SR 99, city streets and transit will provide capacity in the transportation system for today and the future and improve access and mobility to and through downtown Seattle.
- 4

**SR 519**

This project built a bridge over the railroad tracks on S. Royal Brougham Way and an off-ramp connecting I-5 and I-90 to Edgar Martinez Drive S. It also created pedestrian plazas on and under the new bridge and rebuilt 3rd Avenue S. This project improved safety for drivers, pedestrians and bicyclists, and moves freight, daily commuters, sports and event attendees, and ferry traffic faster through the corridor. This project was completed in 2010.
- 5

**South Atlantic Street Overcrossing**

This project would be built as part of the SR 99 – S. Holgate Street to S. King Street Viaduct Replacement project. The southern mile of the Alaskan Way Viaduct is being replaced to meet current earthquake standards, have wider lanes and improve mobility. The South Atlantic Street overpass will help keep freight and other traffic moving when trains are blocking the intersection with Alaskan Way South, improving connections between the Port of Seattle and major freeways. This project is anticipated to be completed in 2013.



# Findings

## SAME-DAY SAME-TIME EVENT FREQUENCY

The new arena would increase the number of same-day events with more than 40,000 event patrons from 3 to 9 on weeknights, and from 22 to 33 on weekend days. This assumes a sold-out arena (20,000 event patrons), average attendance at Safeco Field (30,000 on weeknights and 37,000 on weekends), and well attended CenturyLink Field events (38,500 for Sounders FC and 67,000 for Seahawks). By comparison, there were 44 weeknight and 50 weekend events with more than 40,000 event patrons in 2002 with peak Seattle Mariners attendance.

The vast majority of events at the new arena would not occur on the same day as other events at Safeco Field or CenturyLink Field. The majority of events occurring on the same day would not occur at the same time, even with the addition of the new arena. The probability of same-day events is slightly higher in the Spring when the Mariners and Sounders FC seasons are starting and NHL and/or NBA teams could be in the playoffs.

Because most arena events (NBA and NHL) coincide with the off-season for the Seattle Mariners, the majority of arena events (52 weeknights and 13 weekend days) would not occur with events at CenturyLink Field or Safeco Field.

## MULTIMODAL TRANSPORTATION ACCESS

A rare same-day same-time Mariners game with high regular season attendance (2002 levels) and a sold-out arena event can be accommodated with the future funded roadway improvements, added parking supply, and major expansion of the Link light rail transit system to the north, east, and south. The combined attendance for these events would be approximately 67,000, similar to a Seahawks game. The area accommodates events with a similar total attendance level today—the new arena would increase the frequency.

The time before and after events would be manageable with a Transportation Management Plan which focuses on providing enhanced information directing event patrons to alternate travel routes and available parking. This would reduce the added congestion created from vehicles searching for available parking prior to an event.

Pedestrian access to the new arena would be enhanced by the proposed pedestrian plaza on Occidental Avenue S. between Edgar Martinez Way and S. Massachusetts Street.

Pedestrian improvements focusing on safety at the at-grade rail crossings on S. Holgate Street may be needed due to the expected increase in pedestrians in this area.

## AUTO ACCESS AND PARKING

The parking supply within a 15-minute walk (¾-mile radius) of the new arena, including 1,500 new spaces for the arena, would be sufficient to accommodate the demand from most of the multiple event scenarios (less than 60,000 combined event patrons). For same-time multiple events or large single events (such as Seahawks games) exceeding 60,000 event patrons, the available parking supply area could extend beyond the ¾-mile ring into Downtown Seattle and/or a higher percentage of event patrons would need to use other travel modes such as transit or walking.

Completion of the major planned roadway improvements—Alaskan Way Viaduct Replacement, Spokane Street Viaduct, and S. Atlantic Street Overcrossing would improve vehicular access to the area.

The Safeco Field and CenturyLink Field parking garages could be used by arena patrons on an additional 75 or more days per year due to single events at the arena. Parking agreements to address parking restrictions and management for same-day events would need to be established among the Seattle Mariners, First and Goal, and the arena owners.

## Transit Access

Light rail system extensions to Lynnwood, Redmond, and Kent/Des Moines completed between 2020 and 2025 would provide a reliable and frequent transit option for event patrons that does not exist today. This would reduce traffic congestion and parking demand in the Stadium district vicinity.

Additional light rail trains could be staged at the pocket track south of the Stadium Station to transport event patrons to areas north and south of Seattle.

## Freight Transportation

Conflicts with Port of Seattle freight traffic are expected to be minimal because Terminal 30 and 46 operations typically end at 4:30 pm on weekdays. This is approximately 3 hours prior to the start time for events at the new arena.

Planned improvements such as the Spokane Street Viaduct, Alaskan Way Viaduct Replacement, and S. Atlantic Street Overcrossing will improve freight mobility in the area and be complete prior to the opening of the new arena scheduled for 2016

Some impacts would occur to existing Sodo businesses with nighttime and weekend operations due to the increased frequency of events in the area. These impacts would be analyzed in more detail during subsequent environmental review.

## TRANSPORTATION MANAGEMENT PLAN

The Seattle Arena TMP would likely contain similar elements to the existing Safeco Field and CenturyLink Field TMPs, with key additions for enhanced use of technology such as an e-park system, changeable freeway and arterial street sign directions, and game day mobile apps. These additions would benefit all of the venues, including Safeco Field and CenturyLink Field, enhance the fan experience, and reduce congestion in the area. Transit shuttles between the new arena and the light rail stations, streetcar stations, and downtown Seattle could be implemented for high attendance same-day same-time events.



# Transportation Management Plan

## SEATTLE ARENA TRANSPORTATION MANAGEMENT PLAN – CONCEPTUAL FRAMEWORK

A Transportation Management Plan (TMP) will likely be required as mitigation for the construction of a new Seattle Arena; it is also likely to be required as a condition of approval for vacation of a portion of Occidental Avenue South. Similar to the Safeco Field and CenturyLink Field TMPs (see Appendix B), the following components will likely be included in the Seattle Arena TMP:

- Purpose, objectives and functional goals;
- Plan year single event and multiple event TMP goals;
- Measures to be utilized during the plan year;
- Evaluation techniques to be utilized to monitor process and success;
- Development of coordination plans between major event venues; and
- Discussion of roles and responsibilities.

Most of the components for the Seattle Arena TMP are expected to be similar to the Safeco Field and CenturyLink Field TMPs. However, the following measures for managing event day traffic warrant further consideration:

- Variable, Dynamic and Changeable Message Signs – Variable message signs were mentioned in the Safeco Field TMP as a measure for improving traffic flow, though they have only been used for one event at Safeco Field to date. WSDOT and SDOT should continue to be encouraged to use congestion messaging to alert other travelers of conditions around the stadiums during event periods. Messages could include information regarding traffic congestion, detours, and projected travel times.
- E-Park – This is a joint program between WSDOT and SDOT that informs travelers of the number of available parking spaces in six garages throughout the Downtown Retail Core and Pike Place Market while also providing information on how to get to the garages. This real-time parking information helps reduce the amount of travel required for visitors seeking parking. Expansion of this program to serve the stadium and arena area could effectively improve traffic flow and reduce congestion during event days.

- Game Day Phone Apps – Phone apps should also be considered for assisting event attendees in choosing their travel mode and/or access route, reserving parking in advance, accessing real-time parking availability information and cost, and estimating travel time.
- Local Transit Options - Transit shuttles between the new arena and the light rail stations, streetcar stations, and downtown Seattle could be implemented for high attendance same-day same-time events.

In addition to exploring measures for improving event day traffic flow, the Seattle Arena TMP will need to address the increased potential for more frequent dual/multiple event occurrences with Safeco Field and CenturyLink Field. This will require increased management and coordination of event schedules, extra consideration of start time constraints, and potential implementation of more aggressive strategies for reducing vehicle travel demand during these dual/multiple event occurrences.

### Enhanced Mobile Applications

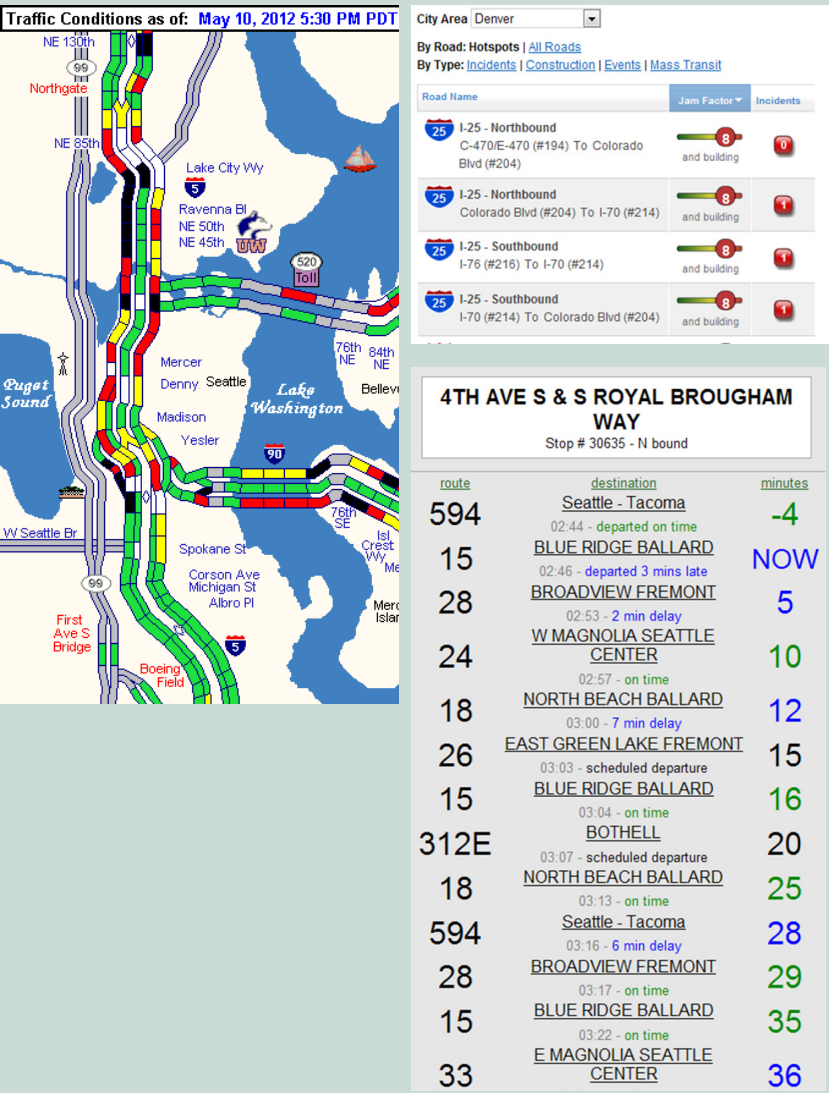
Many NFL, MLB, NHL, and NBA offer mobile apps for tracking team stats, news, schedules, and for viewing live game video and highlights. Many of these apps also provide maps and directions for traveling to and from games and accessing parking.

In addition, some municipalities are beginning to develop their own mobile apps that provide information on sports events and traffic conditions. For example, Colorado’s Own Channel 2 mobile app (<http://kwgn.com/2012/05/03/download-fox31-denver-mobile-apps-for-iphone-ipad-android/>) features Denver Broncos, Colorado Rockies, Denver Nuggets and Colorado Avalanche news, in addition to an interactive traffic map with accidents and up to date road conditions.

As apps are becoming more broadly used, there are many opportunities to develop new apps or enhance existing apps to provide live and interactive transportation information for travelers to and from sports events.

### Game Day Mobile Apps

Mobile apps should also be considered for assisting event attendees in choosing their travel mode and/or access route, reserving parking in advance, accessing real-time parking availability information and cost, and estimating travel time.







# Appendix A. Comparative Event Venues

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Information from three similar size cities with multiple sports event venues and professional sports teams—Minneapolis, Denver, and Cleveland— is summarized in Appendix A. All three cities are comparable to Seattle in terms of metropolitan area population and market size. Three sports event venues with similar attendance capacities exist adjacent to the Downtown in each of the cities. Information summarized in Appendix A includes: sports teams, event venue capacity, access routes, and parking locations.



# EXISTING EVENT VENUE

## Minneapolis

	Metrodome (Mall of America Field)	Target Field	Target Center
Primary Tenants	<p>Minnesota Vikings (NFL) 8 home games</p> <p>U of M Gopher Baseball 38 home games</p>	<p>Minnesota Twins (MLB) 81 home games</p>	<p>Minnesota Timberwolves (NBA) 41 home games</p> <p>Minnesota Lynx (WNBA) 17 home games</p>
Seating Capacity (No. seats)	<p>Football - 64,111</p> <p>Baseball - 45,423</p> <p>Basketball - 50,000</p> <p>Concerts - 60,000</p>	<p>39,504 + 2,500 standing room only</p>	<p>Most events - 20, 500</p> <p>Theater events 2,500-7,500</p>
Highway and Transit Accessibility	<p>Charter and regional bus</p> <p>Light rail</p> <p>Auto – see key routes on map</p>	<p>Charter and regional bus</p> <p>Light rail</p> <p>Auto – see key routes on map</p>	<p>Charter and regional bus</p> <p>Light rail</p> <p>Auto – see key routes on map</p>
Parking Availability	<p>Heavily used lots are shown on map. Additional parking capacity provided in other lots through downtown.</p>	<p>Heavily used lots are shown on map. Additional parking capacity provided in other lots through downtown.</p> <p>Dynamic messaging signs throughout downtown for the most up-to-date parking information</p>	<p>Heavily used lots are shown on map. Additional parking capacity provided in other lots through downtown.</p>





# EXISTING EVENT VENUE

## Denver

	Sports Authority Field at Mile High	Coors Field	Pepsi Center
Primary Tenants	Denver Broncos (NFL) 8 home games  Denver Outlaws (MLL) 14 home games	Colorado Rockies (MLB) 81 home games	Denver Nuggets (NBA) 41 home games  Colorado Avalanche (NHL) 41 home games  Colorado Mammoth (NLL) 8 home games
Seating Capacity (No. seats)	76,125	Baseball - 50,490	Basketball - 19,155 Hockey/lacrosse - 18,007 Arena football - 17,417 Concerts - 20,000+ Other special events - 21,000
Highway and Transit Accessibility	Regional bus and light rail service provided by Regional Transportation District (RTD).  BroncosRide provides direct bus service from many park and rides and bus stops throughout the metro area. BroncosRide also operates the Federal Shuttle and Market Street Station Shuttle, as well as light rail to and from the games. Auto – see key routes on map	Regional bus and light rail service provided by Regional Transportation District (RTD). Auto – see key routes on map	Regional bus and light rail service provided by Regional Transportation District (RTD).  Auto – see key routes on map
Parking Availability	Pay lots for Sports Authority Field at Mile High are shown on map. Additional pay lots are located nearby.	Pay lots for Coors Field are shown on map. Additional pay lots are located nearby.	Pay lots for Pepsi Center are shown on map. Additional pay lots are located nearby.





# EXISTING EVENT VENUE

## Cleveland

	Cleveland Browns Stadium	Progressive Field	Quicken Loans Arena
Primary Tenants	Cleveland Browns (NFL) 8 Home Games	Cleveland Indians (MLB) 81 Home Games	Cleveland Cavaliers (NBA) 41 Home Games  Lake Erie Monsters (AHL) 38 Home Games  Cleveland Gladiators (AFL) 9 Home Games
Seating Capacity (No. seats)	Football 73,200	Baseball 43,429	Basketball and Ice Hockey 20,562
Highway and Transit Accessibility	Bus and light rail service provided by Regional Transit Authority Auto – see key routes on map	Bus and light rail service provided by Regional Transit Authority Auto – see key routes on map	Bus and light rail service provided by Regional Transit Authority Auto – see key routes on map
Parking Availability	Heavily used lots are shown on map. Additional parking capacity provided in other lots through downtown.	Heavily used lots are shown on map. Additional parking capacity provided in other lots through downtown. Available spaces within a 15-minute walk are more than enough to accommodate all fans attending simultaneous sellout events at Progressive Field and Quicken Loans Arena.	Heavily used lots are shown on map. Additional parking capacity provided in other lots through downtown.





# Appendix B. Safeco Field and CenturyLink Field TMPs

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This appendix summarizes the existing Transportation Management Plans for Safeco Field and CenturyLink Field.

# Transportation Management Plan Summaries

## TRANSPORTATION MANAGEMENT PLAN

A transportation management plan (TMP) will be required for the proposed Seattle Arena and will likely include elements similar to the Safeco Field Transportation Management Plan and CenturyLink Field Transportation Management Program. A brief description of TMP elements for Safeco Field and CenturyLink Field are provided, followed by additional components that should be considered in a TMP for the Seattle Arena.

### Safeco Field Transportation Management Plan – Plan Year: March 1, 2012 to March 1, 2013

The Safeco Field Transportation Management Plan (TMP) was developed as a tool to accomplish specific goals for the 2012 baseball season and to affect the long-term behavior of fans over the coming years. It is a reflection of comments and observations received from the Parking and Access Committee (PARC), the City of Seattle, individual fans and event attendees, and Seattle Mariners management and staff.

This annual plan is required for Safeco Field as a condition of the Master Use Permit, and is intended to influence the behavior of event participants in their selection of transportation mode, travel route or parking location. The goal is to manage the traffic and parking demand associated with Safeco Field, while continuing to acknowledge the transportation needs and preferences of event participants coming from a very large geographic market.

### 2012 Single Event and Dual Event TMP Goals

Day-specific TMP measures are required for single events other than Major League Baseball with attendance of 15,000 or more, as well as for concurrent time specific dual events. Measures in day specific TMPs will be tailored to achieve the same overall objectives as those for a baseball game. The single event goals shown in the adjacent table that apply to major league regular season baseball games are averaged annually, however goals for individual non-baseball events are calculated individually. Meeting the goal for individual events requires working closely with individual event planners.

## CURRENT SINGLE EVENT TMP - SAFECO FIELD

ATTENDANCE LEVEL (No. Persons)	TMP Goal (Vehicles per 1,000 Attendees)
Regular season baseball only - up to 38,500 average annual attendance	No more than 325 vehicles per 1,000 attendees
Regular season baseball only - 38,500 to 44,000 average annual attendance	No more than 300 vehicles per 1,000 attendees
Regular season baseball only - over 44,000 average annual attendance (sell-out season)	No more than 275 vehicles per 1,000 attendees
Single events other than Major League Baseball - attendance greater than 15,000 but less than 38,500	No more than 325 vehicles per 1,000 attendees
Single events other than Major League Baseball - attendance greater than 38,500	No more than 300 vehicles per 1,000 attendees

Source: Ballpark Master Use Permit #9600329



While it is not in the best interests of the Mariners for there to be concurrent large-scale events at Safeco Field and CenturyLink Field and Event Center, dual events (defined as events occurring with less than four hours from the projected end time of one event to the scheduled start time of the next) do occur, particularly during the overlapping baseball and soccer seasons. Goals and definitions that would apply to any such dual events are listed in the adjacent table.

CURRENT DUAL EVENT TMP GOALS- SAFECO FIELD AND CENTURYLINK FIELD

ATTENDANCE LEVEL (No. Persons)	TMP Goal (Vehicles per 1,000 Attendees)
General Dual Event Goal	
General Dual Event Goal for dual events with concurrent attendance up to 65,000	No more than 310 vehicles per 1,000 attendees at both venues
Time Specific Dual Events	
Weekday Evening - 58,000 to 65,000 Weekend - 65,000 to 75,000	No more than 280 vehicles per 1,000 attendees at both venues
Weekday Evening - 65,000 to 85,000 Weekend - 75,000 to 95,000	No more than 240 vehicles per 1,000 attendees at both venues
Weekday Evening - 85,000 to 95,000 Weekend - greater than 95,000	No more than 220 vehicles per 1,000 attendees at both venues
Weekday - greater than 95,000	No more than 200 vehicles per 1,000 attendees at both venues

Source: Ballpark Master Use Permit #9600329

As required by the Master Use Permit, compliance with the single event and dual event TMP goals will be measured by attendee surveys. The survey gathers data from fans to determine the number of vehicles per 1,000 attendees arriving at the ballpark during the peak two hours prior to the start of randomly selected games. Individual event surveys may also be conducted for single, non-baseball events where attendance is anticipated to exceed 15,000. The results of the survey are submitted in an annual report to the City of Seattle and Parking Access Review Committee as required by the Master Use Permit.

Measures to be Utilized During the 2012 Season

The following measure categories comprise the TMP for Safeco Field for the period between March 1, 2012 and March 1, 2013. The measures are intended to work together to influence the overall travel behavior of people attending events at Safeco Field.

- Information and Attendee Education – Measures included in this category include making available a Transportation Guide containing event access and parking information; providing information via a call center, web pages, e-mail, and other publicity such as Metro Transit and Sound Transit schedules, printed and broadcast media, periodic mailings to season ticket holders, postings on the outfield video board and ballpark matrix board, and game announcements.
- Pedestrian Improvements – The TMP includes measures for managing pedestrian flows, and describes how pedestrian travel patterns will continue to shift as Link service increases and parking availability changes. HOV Incentives – The Mariners continue to encourage adjacent parking operators to offer HOV discounts. In addition, HOV discounts and commuter subsidies (HOV and transit) are offered to day of game employees.
- Transit Service – The current challenges and benefits associated with providing transit service, including Metro bus service, ACCESS transit service, charter buses, Sound Transit’s Sounder commuter rail service, and Link light rail service are highlighted in the discussion of this measure

category.

- Bicycles – The ballpark access plan includes identifying a network of bicycle routes linking Safeco Field with existing bicycle paths in the south downtown area. Bicycle parking locations, and bicycling trends for baseball games are described.
- Parking – The TMP provides information on and measures for managing on-site and off-site parking for baseball games. Traffic Flow Improvements - A description of when and how attendees arrive and depart the ballpark by vehicle and pedestrian modes is included in this measure category. Primary ingress and egress routes are provided and reflect recent street changes to account for construction activities for area projects such as, but not limited to, the SR 99 and Spokane Street projects. The Mariners work with the Seattle Police Department, SDOT, First and Goal, the Port of Seattle and the affected neighborhoods to review traffic control measures, consider traffic signal modifications, and identify signage improvements where needed to maintain traffic flow during events.
- Event Management – The Seattle Mariners have a Director of Transportation and Neighborhood relations who has been assigned to work with CenturyLink Field and Event Center staff to manage and coordinate event scheduling, dual-events and transportation management to prevent significant disruption to the traffic system and adjacent neighborhoods. The Director works with SDOT, Seattle Police Department, City of Seattle Special Events, Department of Planning and Development, WSDOT, the Port of Seattle, neighborhood representatives and ballpark event staff to ensure that event information is fully communicated and potential conflicts and impacts are minimized. For dual event dates, the Mariners work with CenturyLink Field and Event Center to develop day-specific TMPs that are submitted to the City and PARC for review.

**CenturyLink Field Transportation Management Program – Plan Year 2011**

The purpose of the CenturyLink TMP is to minimize the impact of vehicle and pedestrian circulation and parking and the secondary effects of circulation and parking management controls on the neighborhoods and streets surrounding CenturyLink Field. The TMP was reviewed by the Parking and Access Review Committee (PARC), and development of the implementation plan occurs concurrently with a review of the TMP by the Department of Planning and Development.

Construction of CenturyLink Field was approved with the condition of establishing a Transportation management Program (TMP) to mitigate potential adverse impacts related to vehicle and pedestrian circulation. This programmatic approach was selected because major events occur intermittently and generally do not conflict with traditional peak traffic conditions. CenturyLink Field event travel conditions vary depending on crowd size and character.

The TMP primarily addresses professional football and professional soccer. As other tenants and events are identified, it is modified to address the expected attendance levels and the conditions that exist at the times and days when these other events occur.

**2011 Single Event and Dual Event TMP Goals**

The CenturyLink Field TMP also strives for numerical goals to measure TMP performance. An index was developed for private automobile traffic and parking, defined in terms of cars per 1,000 attendees, to measure the reduction in cars traveling to and from events. The index is affected by: 1) use of transit and other non-automobile modes of travel, and 2) average vehicle occupancy for the cars that travel to the event. The current goals for a single event at CenturyLink Field are listed in the adjacent table.

TMP goals were also developed for dual event circumstances when there are simultaneous major events at CenturyLink Field and Safeco Field, or when the projected end time of one event and the scheduled start time of the next event are less than four hours apart. Specific goals for these circumstances are also included in the Safeco Field TMP and summarized in the adjacent table.

To monitor TMP goals, an attendee survey has been conducted during the regular football season. The survey gathers information from attendees to determine the number of vehicles per 1,000 attendees arriving at the stadium during the two hours prior to kick-off at a selected game. A 2010 evaluation of the TMP performance indicated that the TMP effectively reduced and managed impacts in the immediate vicinity of CenturyLink Field.

**MEASURES TO BE UTILIZED DURING THE 2011 SEASON**

The individual TMP elements include the following strategic program groups:

- Event Management and Public Education – This program concentrates on event and facility management techniques to eliminate and/or reduce transportation demand. Most important, public and attendee information programs have been developed to share information regarding ways to make effective transportation mode and routing choices, and take advantage of opportunities that complement the event experience and minimize impacts on the surrounding community.
- Traffic and Parking Demand Reduction – The programs in this group encourage non-automobile modes of travel including King County Metro transit, charter bus, rail (Sounder, Link Light Rail and Amtrak), ferry, and non-motorized modes. Management of Resultant Vehicle and Pedestrian Demand – Programs included in this group focus on parking, traffic and pedestrian management, and improvement options to direct and control traffic flows. These measures manage local traffic congestion on event days by efficiently directing drivers to available transportation and parking facilities and minimizing pedestrian conflicts.
- Implementation and Monitoring – These programs are targeted at the effective management, monitoring, and refinement of the effectiveness of the TMP to respond to planned and unplanned event characteristic and transportation system modifications.

**CURRENT SINGLE EVENT TMP - CENTURYLINK FIELD**

Event Type and Timing	TMP Goal (Vehicles per 1,000 Attendees)
Weekend CenturyLink Field	277 cars per 1,000 attendees
Weeknight CenturyLink Field	307 cars per 1,000 attendees





# SEATTLE ARENA MULTIMODAL TRANSPORTATION ACCESS AND PARKING STUDY

## ARENA ONLY EVENTS

- Sold-out arena event (20,000 attendees) adds approximately 6,000 vehicles
- 52 weeknights with Arena events only are well within the existing parking / traffic / transit capacity
- Link light rail and First Hill Streetcar projects will substantially increase transit capacity in the next 10 years
- Same-day same-time events are the primary focus of the study

## MULTIPLE EVENT SCHEDULES AND ATTENDANCE

- Weeknights with 40,000+ event patrons increases from 3 to 9
- 40,000+ attendee events could increase by up to 15 on weeknights if one or more teams make the playoffs
- For comparison, there were 40 weeknight games in the Mariners season (2002) with 40,000+ event patrons
- With similar 2002 Mariners attendance levels the 40,000+ weeknight events would increase from 44 to 46 with the arena
- Most same-day same-time events would be 40,000 - 50,000 event patrons; lower than a weeknight Seahawks game at 67,000

## MULTIMODAL TRANSPORTATION ACCESS

- More transportation options exist today compared to the Mariners peak attendance year.
- More transportation options will be available before the arena opens.
  - Link Light Rail extensions
  - First Hill Streetcar
  - East Marginal Way Grade Separation
  - Spokane Street Viaduct Widening Project.
  - Alaskan Way Viaduct Tunnel replacement
  - South tunnel portal interchange
  - South Atlantic Street overcrossing
- 35,000+ parking spaces exist at Snohomish, King and Pierce County park and ride lots
- Link light rail extensions would provide access from over 13,000 park and ride spaces



# SEATTLE ARENA MULTIMODAL TRANSPORTATION ACCESS AND PARKING STUDY

## PARKING

- Parking supply within a 15-minute walk of arena would be sufficient to accommodate 60,000+ attendance same-day events
- This assumes 3,500 new spaces
- Approximately 1,500 spaces new to the arena and 2,000 potential spaces from other projects

## FREIGHT AND PORT

- Arena event times generally do not coincide with the regular Port of Seattle container terminal operations
- Day-time arena events would be rare
- Most Port of Seattle operations close at 4:30 pm – this could be extended if growth in container volume occurs
- Arena events start at 7-7:30 pm
- Majority of event traffic would be on 1st Avenue and roadways to the east
- Majority of Port of Seattle operations are west of 1st Avenue S – Port of Seattle operations are effectively separated from event traffic
- Planned and funded infrastructure improvements would improve Port of Seattle operations
- Atlantic Street overpass provides a new direct connection between the container terminals and rail yards